HEATCON COMPOSITE SYSTEMS®

Advanced Composite Curing Systems

Product Catalog

WWW.HEATCON.COM

HEATCON

HCS2047
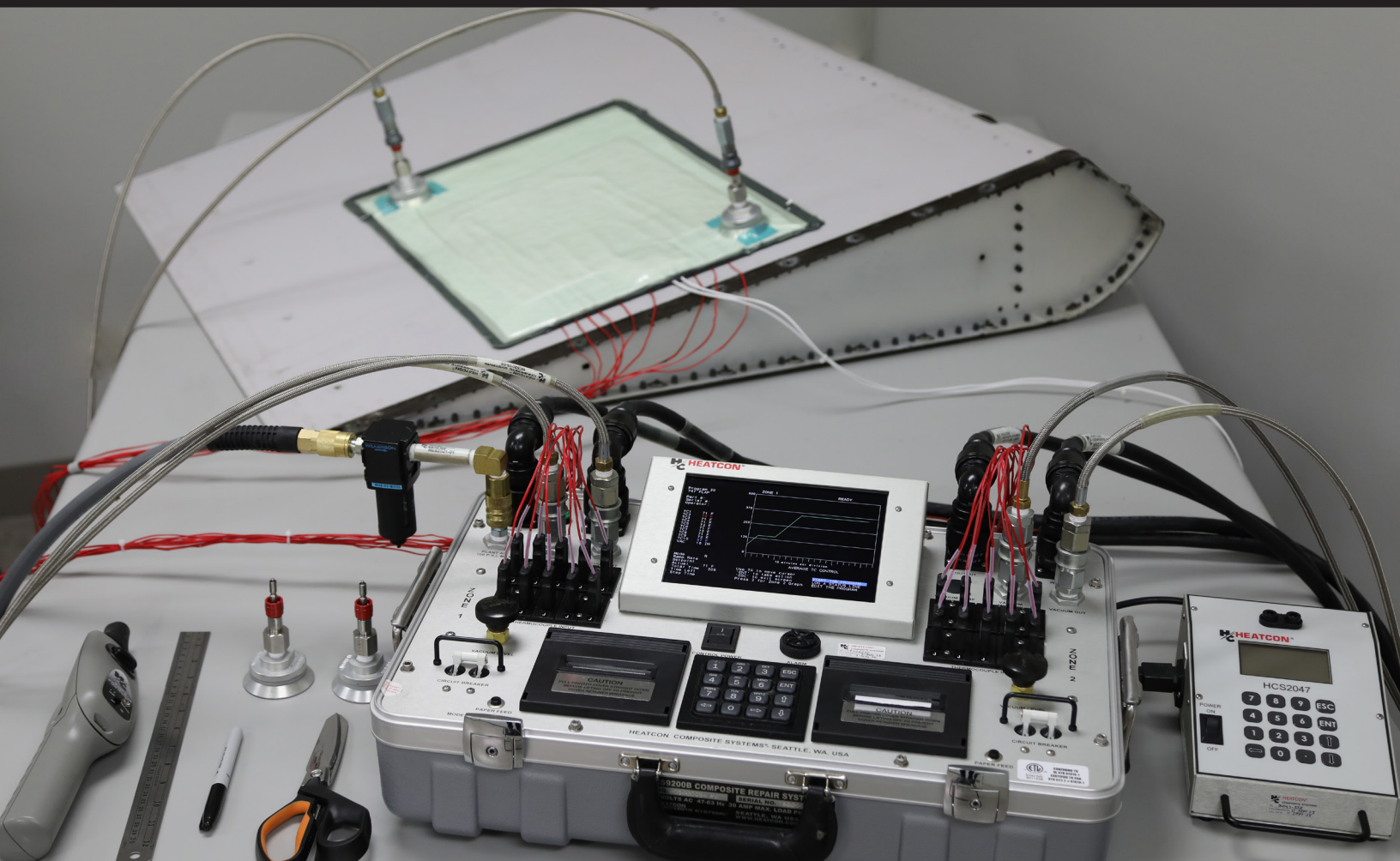
Temperature Control   **Heat Blankets**   **Certified Materials** **Process Equipment**

The Leader In Composite Repair

Heatcon Composite Systems has been involved in the support of advanced composite repairs since 1981. For over 40 years, we've committed our time and product development to improving composite repair processes.

As a leading global manufacturer and supplier of aerospace composite repair equipment, we provide a full range of equipment, accessories, technical and training services, and materials for the repair of composite structures.

We specialize in working with Aircraft Manufacturers (OEMs), Defense Organizations, Commercial Airlines, and Maintenance Repair Organizations (MROs) by providing them with the expertise and tools to repair composite structures and components.

Quality Certifications
ISO 9001:2015, AS9100D, AS9120B, FAA AC 00-56B, ASA-100

Equipment

Keeping innovation at the forefront of our designs, Heatcon maintains market leadership in composite repair equipment. We manufacture a variety of Hot Bonders designed to meet your applicable needs and OEM specifications. Heatcon also engineers and builds process equipment including Debulking Tables, AutoClaves, Heat Lamps, and Infrared Curing Systems.

Heat Blankets

Heatcon manufactures thermally uniform heat blankets in an extensive range of shapes and sizes. These include flat 2D blankets and full 3D geometries. Heatcon's team of engineers can go beyond the standard options and design blankets to the unique specifications you provide.

Materials

We offer a wide range of advanced composite aerospace materials to support your repair applications. Heatcon specializes in small quantity repackaging and kitting materials for immediate shipment around the globe.
We stock material from a variety of manufacturers including:
HEXCEL | 3M | TORAY | SOLVAY

Technical Support

Heatcon offers Technical Support with product selection, application assistance, and equipment familiarization training. We provide worldwide support with equipment calibration, software updates, and factory service. Advanced operational training is also available.

Find us on LinkedIn to stay up to date on Heatcon news. #heatcon

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Shop Equipment

Technical Services and Training
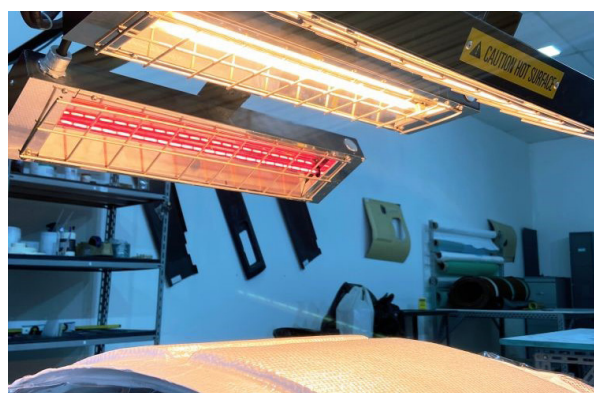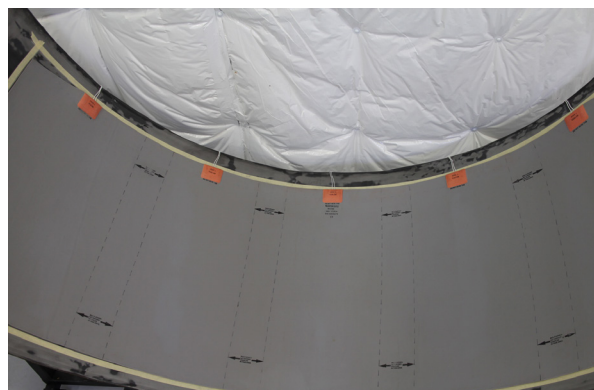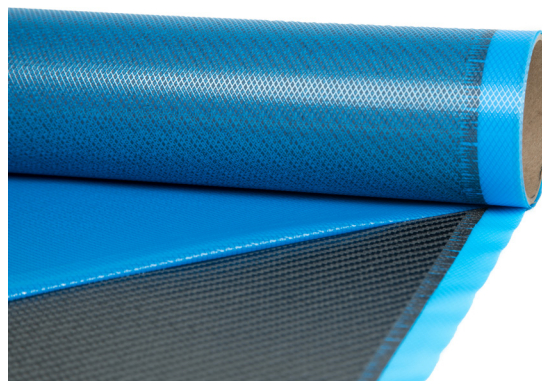
HEATCON COMPOSITE SYSTEMS®

Hot Bonders

Heatcon Composite Hot Bonders

Heatcon Hot Bonders are the bonder of choice for major MRO repair facilities, airlines, schools, and training programs alike. Heatcon is proud to support both military and commercial customers worldwide. To meet the needs of our customers, Heatcon has developed multiple types of bonders to suit the unique needs of each repair. The same care and robust design is placed in to each of our bonders to ensure ruggedness and longevity in our product. To back our product, Heatcon also offers support, service, including calibration, to keep your bonder operating at peak performance.

Used for Composite Curing in the Field or the Shop
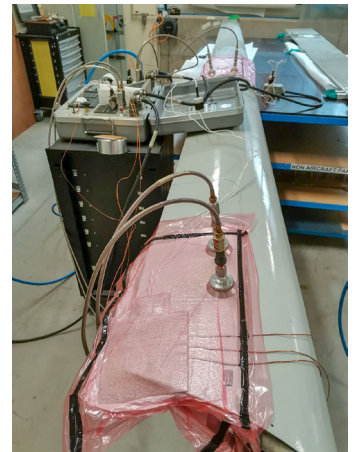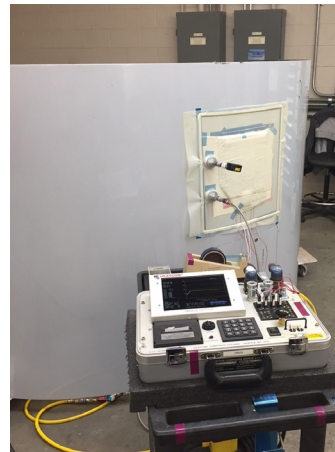
Intuitive User Interface For Quick and Easy Operation
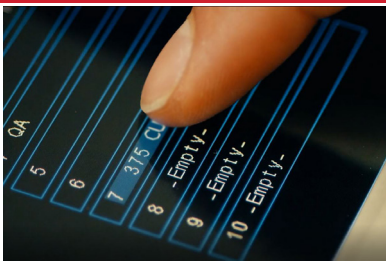
Supports Training Facilities, and Offers Equipment Training
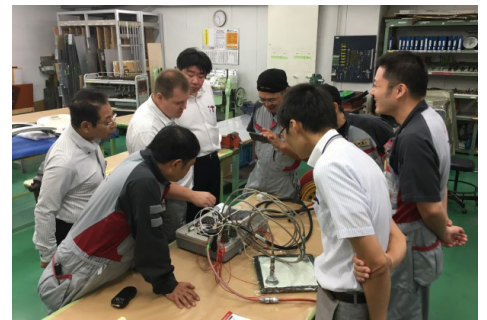
Heatcon Composite Hot Bonders

Calibration and Services
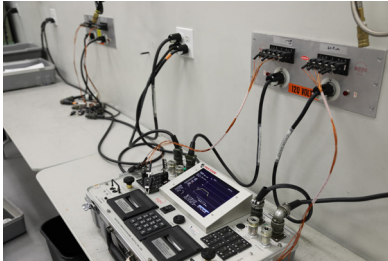
Capable of Controlling Multiple Types of Heat Sources

Portable for Use on Hard-To-Reach Components
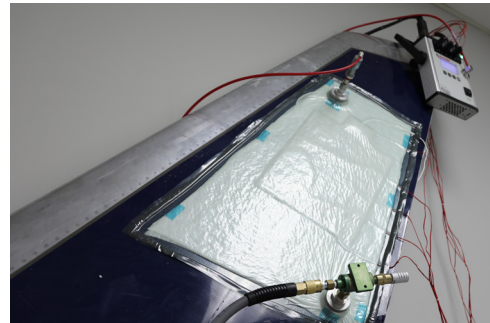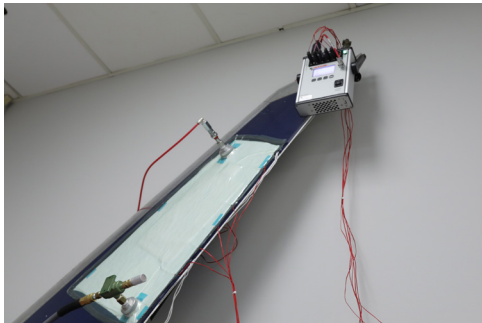
Extreme Environment Hot Bonders

Our Special Application bonders are designed to meet unique requirements. These models are designed for Class I Div II explosion resistance, work on a flightline, and extreme weather and more.

HEATCON COMPOSITE SYSTEMS®

Dual Zone Hot Bonder
HCS9200B

The HCS9200B features two zones of temperature control which can be used to perform two composite cures independently or in conjunction with one another for maximum versatility. The system automatically monitors and records vacuum while controlling the temperature of a heat source during the cure process to ensure compliance with material specification requirements. The HCS9200B allows for the change of any cure parameter while the program is running.

NSN: 4920-01-462-4666

Dual Zone Hot Bonder of choice for major airlines, repair stations, and schools!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:

High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs Per Zone)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation

Dual Zone Hot Bonder - Compatible Accessories HCS9200B

Thermocouple Expansion Unit - HCS9320E
• Expand thermocouple input with an additional 20 or 40 ports
• Expand capability of heat controlling and monitoring
• Available for type J and K thermocouples
• For more information on the Thermocouple Expansion Unit, see page 29

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9200B

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:

Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 Page 17

HEATCON COMPOSITE SYSTEMS®

Single Zone Hot Bonder
HCS9000B

The HCS9000B features a single zone control system designed to control and monitor various localized heat sources, including Heat Blankets, Bonder Controlled Heat Lamps and Hot Air Curing Systems. Featuring a dynamic alarm system, Heatcon Bonders will alert you if there are any issues during your cure, placing the bonder on hold rather than shutting it down. Our unique interface allows for changes to the cure while it is in operation.

NSN: 4920-01-462-4658

Hot Bonder of choice for major airlines, repair stations, and schools!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation

HEATCON COMPOSITE SYSTEMS®

Single Zone Hot Bonder - Compatible Accessories HCS9000B

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Hot Air Curing System - HCS2041
• Coordinate operations of multiple HCS9000B Hot Bonders
• Designed for larger area cures, or thermally complex repair situations where multiple zones are required.
• Centralizes the operator interface, data collection and cure record export, synchronizing tasks to one unit.
• For more information on the Network Controller, see page 38

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9000B

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:

Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 - Page 17

HEATCON COMPOSITE SYSTEMS®

EV Series Dual Zone Hot Bonder
HCS9200B-EV

The HCS9200B-EV is a unique Hot Bonder that features a vacuum pump in the lid of the unit, allowing for repairs in situations where connections to shop air are not easily attainable.

The EV series of Hot Bonders includes all standard features that have made our Dual Zone Bonders the unit of choice for major airlines, repair stations, and schools, with the added versatility of not needing an outside vacuum source.

NSN: 4920-01-563-2102

Included vacuum eliminates the need for auxiliary vacuum source!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs Per Zone)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone (Higher amperages available)
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation
Built in Electric Vacuum Pump - Max. flow is 0.75 cubic ft/min (354 cm^3/sec) and Max. level is 28+ in Hg (0.967 kgs/cm^2)

EV Series Dual Zone Hot Bonder - Compatible Accessories HCS9200B-EV

Thermocouple Expansion Unit - HCS9320E
• Expand thermocouple input with an additional 20 or 40 ports
• Expand capability of heat controlling and monitoring
• Available for type J and K thermocouples
• For more information on the Thermocouple Expansion Unit, see page 29

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9200B-EV

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:

Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
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Printer Paper/Ribbon: HCS2045 Page 17

HEATCON COMPOSITE SYSTEMS ®

EV Series Single Zone Hot Bonder
HCS9000B-EV

The EV series of Hot Bonders features a vacuum system that is built in to the unit to allow for better mobility to the repair, and eliminates the need for an alternative air source.
The vacuum pump included in the HCS9000B-EV has a maximum flow of .75 cubic ft. per minute (354 cm^3/second) and a max level of 28+ in/Hg (.967kgs/cm^2) providing the vacuum power to support multiple OEM requirements.

Included vacuum eliminates the need for auxiliary vacuum source!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone (Higher amperages available)
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation
Built in Electric Vacuum Pump - Max. flow is 0.75 cubic ft/min (354 cm^3/sec) and Max. level is 28+ in Hg (0.967 kgs/cm^2)

HEATCON COMPOSITE SYSTEMS®

Hot Bonders

Bonder Controlled Heat Lamp - HCS2044-30

• Accelerate the cure of two-part resins
• Can be configured and designed to meet your needs
• Great for paint, primers and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Hot Air Curing System - HCS2041

• Coordinate operations of multiple HCS9000B Hot Bonders
• Designed for larger area cures, or thermally complex repair situations where multiple zones are required.
• Centralizes the operator interface, data collection and cure record export, synchronizing tasks to one unit.
• For more information on the Network Controller, see page 38

Heat Blankets

• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9000B-EV

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:

Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
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HEATCON COMPOSITE SYSTEMS®

Hot Bonders

Maintaining the standard features you have come to know in the Heatcon Bonders, the HCS9000C eliminates the alphanumeric keypad and introduces a touchscreen interface. Easily navigate the menu by simply tapping the options you want.

The touch screen makes this single zone bonder lighter and smaller for easy transportation to and from jobs, but maintains the durability of the HCS9000B bonders

Single Zone Hot Bonder with Next Generation Touch Screen!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Air Filter
- USB Drive

FEATURES:

High-resolution and sunlight readable LCD touch screen
Enhanced menu interface for easier navigation
USB interface for data export and printer plug-in (using Printer Station HCS2070)
Rapid start-up (in as little as 10 seconds)
Over 500 hours of cure information (12 Cure Records) stored for data export and printing
Up to eight (8) ramps and dwells per program
Dynamic Alarm / Control Integration
Select by hottest, coldest, average of all or no. 1 / no. 2 Thermocouple (10 Thermocouple Inputs)
Selectable metric or English units
90-264VAC (47-63, 400Hz)
30A power output per zone
Power failure auto recovery
Up to 30 customizable cure profiles
Control toggle for individual thermocouples
Foreign language menu systems
Ground Fault Interrupt (GFI)

Touch Screen Hot Bonder - Compatible Accessories HCS9000C

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Printer Station HCS2070
• Lightweight, Portable Printer Station for use with HCS9000C
• Makes use of non-thermal, impact print and ink process for more permanent record than thermal paper
• One Printer can be used to print cure records for several bonders
• Connects easily via USB
• For more information on the Network Controller, see page 17

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9000C

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:

Hot air machine: HCS2041 - Page 38
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HEATCON COMPOSITE SYSTEMS®

Micro Hot Bonder
HCS8806

The HCS8806 is our lightest bonder, coming in at only four pounds (1.9kg). This unique bonder is specially suited for situations where maximum portability and minimal weight are needed.

Featuring six thermocouple inputs, the Micro Bonder features vacuum monitoring, power recovery, and the ability to store eight cure programs. Data is captured for USB export, or the unit can be used with the HCS2070 printer station.

Lightweight - Only Four Pounds - Portable and Easy to Operate!

Accessories Included:
- Heat Blankets
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Air Filter
- USB Drive

FEATURES:
High-resolution and sunlight readable LCD touch screen
Enhanced menu interface for easier navigation
USB interface for data export and printer plug-in (using Printer Station HCS2070)
Rapid start-up (in as little as 10 seconds)
Over 500 hours of cure information (12 Cure Records) stored for data export and printing
Up to eight (8) ramps and dwells per program
Dynamic Alarm / Control Integration
Select by hottest, coldest, average of all or no. 1 / no. 2 Thermocouple (6 Thermocouple Inputs)
Selectable metric or English units
90-264VAC (47-63, 400Hz)
30A power output per zone
Power failure auto recovery
Up to 30 customizable cure profiles
Control toggle for individual thermocouples
Foreign language menu systems
Ground Fault Interrupt (GFI)

HEATCON COMPOSITE SYSTEMS®

Micro Hot Bonder - Compatible Accessories
HCS8806

The HCS2070 Printer Station is lightweight and portable. Designed for use with HCS8806, HCS2044 and HCS9000C, this printer makes use of non-thermal, impact print and ink process for more permanent record than thermal paper.

SPECIFICATIONS	
Weight	2.5 lbs (1.133kg)
Dimensions	11.28in x 4.72in x 4.97in (28.65cm x 11.98cm x 12.62cm)
Power	90 - 264 VAC, 47-63 Hz, 1 phase,1 Amp Max

FEATURES
Connects via USB
Non-Thermal Dot matrix printer
Standard paper tape and ribbon
Time, date, and full program/cure description
Record of Tag Number, P/N, Employee ID
Graph of actual cure showing time and temperature
Setpoint, actual temperatures and vacuum are printed at selected intervals
Print - Temperature Summary or all Thermocouples
Record of alarm conditions and alarm clear
Prints any program changes or adjustments made during cure
Post cure printing only

B-Model Paper and Ink

Description	Image	Part Number	Details
Printer Paper		HCS2045-03	Printer paper roll used for hard copy text and graphic printouts of repair information.
Printer Ribbon		HCS2045-04	Continuous loop ink ribbon used for printouts of repair information. Use with HCS2045-03 Printer paper roll.

Power Cable Options - HCS8806

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS2001-46	5ft (1.5m)	No Plug	250V, US Configuration
	HCS2001-49	5ft (1.5m)	5-15P	125V, 15A
	HCS2001-50	5ft (1.5m)	6-15P	250V, 15A
Output Power Cables	HCS2005-57	5ft (1.5m)	5-15R	250V, 15A
	HCS2005-60	5ft (1.5m)	CA Style	125V/250V, 20A
	HCS2005-61	5ft (1.5m)	L5-15	125V, 15A
	HCS2005-62	5ft (1.5m)	L6-15	250V, 15A

Additional accessories:

Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50

HEATCON COMPOSITE SYSTEMS®

Hot Bonders

Flight Line Dual Zone Hot Bonder
HCS9200FL

The HCS9200FL meets the requirements of Class I, Division II, hazardous environment operation per the US National Electric Code. The Flight Line series of Bonders feature the same basic features, capabilities, and operating software as the HCS9200B
The HCS9200FL is used with our Flight Line Heat Blankets, designed with a supervisory grid for over-temperature safety and a ground plane for sensing faulty circuits.

NSN: 4920-01-462-4675

Dual Zone Bonder Designed for Hazardous and Flightline Operations

Accessories Included:
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in)
(13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs Per Zone)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation

Flight Line Dual Zone Hot Bonder - Compatible Accessories HCS9200FL

Hot Bonders

Thermocouple Expansion Unit - HCS9320E
- Expand thermocouple input with an additional 20 or 40 ports
- Expand capability of heat controlling and monitoring
- Available for type J and K thermocouples
- For more information on the Thermocouple Expansion Unit, see page 29

Bonder Controlled Heat Lamp - HCS2044-30
- Rugged frame for shop and hangar environment
- Available in 1600W and 3600W
- Great for paint, primers, resins and other coatings
- For more information on the Bonder Controlled Heat Lamp, see page 41

Heat Blankets
- High quality, superior thermal uniformity.
- Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
- Capable of creating flat, radome, stretch for 3D, and contoured blankets
- For more information on our Heat Blankets, see page 55

Additional accessories:

Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 Page 17

HEATCON
COMPOSITE SYSTEMS ®

Flight Line Single Zone Hot Bonder
HCS9000FL

The HCS9000FL has the same basic features and operational capabilities of the HCS9000B, but is further designed to meet the requirements of Class I, Division II, hazardous environment operation per the US National Electric Code.

The HCS9000FL is used with our Flight Line Heat Blankets, designed with a supervisory grid for over-temperature safety and a ground plane for sensing faulty circuits

NSN: 4920-01-462-4673

Single Zone Bonder Designed for Hazardous and Flightline Operations

Accessories Included:
• Heat Blankets
• Power Cords
• Thermocouples
• Vacuum Hose
• Data Capture Analysis Software
• Extra Printer Ribbon and Paper
• Air Filter
• USB Drive

FEATURES:

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation

Flight Line Single Zone Bonder - Compatible Accessories HCS9000FL

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Hot Air Curing System - HCS2041
• Coordinate operations of multiple HCS9000B Hot Bonders
• Designed for larger area cures, or thermally complex repair situations where multiple zones are required.
• Centralizes the operator interface, data collection and cure record export, synchronizing tasks to one unit.
• For more information on the Network Controller, see page 38

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Additional accessories:

Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 - Page 17

HEATCON COMPOSITE SYSTEMS®

Dual Zone Hot Bonder
HCS9200M

The primary system application is composite and metal bond repairs under adverse environmental conditions. The HCS9200M has been certified to extreme environments as defined by MIL-STD-810E.

The HCS9200M series hot bonder also features an internal electric vacuum pump and two low temperature (heated) pneumatic vacuum pumps, capable of operating in temperatures from 14°F to 140°F.

The HCS9200M offers explosion resistance and is capable of operating under real world and adverse conditions.

NSN: 4920-01-588-4308

Dual Zone Bonder Designed for Extreme Environments

Accessories Included:
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive

FEATURES:
High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (10 Thermocouple Inputs Per Zone)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Internal GFI Protection
Enhanced Menu Interface for Easier Navigation

Dual Zone Hot Bonder - Compatible Accessories HCS9200M

Thermocouple Expansion Unit - HCS9320E
• Expand thermocouple input with an additional 20 or 40 ports
• Expand capability of heat controlling and monitoring
• Available for type J and K thermocouples
• For more information on the Thermocouple Expansion Unit, see page 29

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9200M

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:
Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 Page 17

HEATCON COMPOSITE SYSTEMS®

Dual Zone Hot Bonder
HCS9200N

The HCS9200N has been certified to extreme environments as defined by MIL-STD-810E and has been further certified to meet MIL-STD-461E EMI shielding requirements. Built to be rugged and explosion resistant, the HCS9200N is capable of operating under real world and adverse conditions.

This extreme environment bonder is suited for use in a salt-air environment further increasing its robust design.

The HCS9200N includes sixteen (eight per zone) thermocouple inputs, each utilizing a sealed connector for harsh environment protection. These thermocouples are Type J, Teflon jacketed with EMI shielding.

HCS9200N-02.5
NSN: 4920-01-624-6759

Dual Zone Bonder Designed for Extreme Environments

Accessories Included:
- Power Cords
- Thermocouples
- Vacuum Hose
- Data Capture Analysis Software
- Extra Printer Ribbon and Paper
- Air Filter
- USB Drive
- Vacuum Gauge
- Data Download Cable

FEATURES:

High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in) (13.33cm x 17.14cm)
Improved Text Entry System with Alphanumeric Keypad
USB Interface for Data Export to USB Storage Device
Rapid Start-up (in as little as 10 seconds)
Over 500 hours of Cure Information (12 Cure Records) Stored for Data Export and Printing
Up to Eight (8) Ramps and Dwells per Program
Automatic Graph Scaling for High Temperature Cures above 500 Degrees
Dynamic Alarm / Control Integration
Select by Hottest, Coldest, Average of All or No. 1 / No. 2 Thermocouple (8 Thermocouple Inputs Per Zone)
Selectable Metric or English Units
90-264VAC (47-63Hz)
30A Power Output per Zone
Power Failure Auto Recovery
Up to 30 Customizable User Named Cure Profiles
Control / Monitor Toggle for Individual Thermocouples
Blanket GFI Protection
Enhanced Menu Interface for Easier Navigation

Dual Zone Hot Bonder - Compatible Accessories
HCS9200N

Thermocouple Expansion Unit - HCS9320E
• Expand thermocouple input with an additional 20 or 40 ports
• Expand capability of heat controlling and monitoring
• Available for type J and K thermocouples
• For more information on the Thermocouple Expansion Unit, see page 29

Bonder Controlled Heat Lamp - HCS2044-30
• Rugged frame for shop and hangar environment
• Available in 1600W and 3600W
• Great for paint, primers, resins and other coatings
• For more information on the Bonder Controlled Heat Lamp, see page 41

Heat Blankets
• High quality, superior thermal uniformity.
• Designed with flexible silicone rubber for the repair of composite structures using vacuum bagging techniques.
• Capable of creating flat, radome, stretch for 3D, and contoured blankets
• For more information on our Heat Blankets, see page 55

Power Cable Options - HCS9200N

	Part Number	Length	NEMA	Rating
Input Power Cables	HCS9000-70-145	10ft (3m)	5-15P	125V, 15A
	HCS9000-70-245	10ft (3m)	L5-30P	125V, 30A
	HCS9000-70-250	10ft (3m)	L6-30P	250V, 30A
	HCS9000-70-140	10ft (3m)	No Plug	250V US Configuration
	HCS9000-70-150	10ft (3m)	No Plug	250V EU Configuration
Output Power Cables	HCS9000-71-220	5ft (1.5m)	L5-30R	125V, 30A
	HCS9000-71-225	10ft (3m)	L5-30R	125V, 30A
	HCS9000-72-220	5ft (1.5m)	L6-30R	250V, 30A
	HCS9000-72-225	10ft (3m)	L6-30R	250V, 30A
	HCS9000-72-170	5ft (1.5m)	6-15R	250V, 2-15A
	HCS9000-71-145	5ft (1.5m)	L5-15R	125V, 2-15A
	HCS9000-72-180	5ft (1.5m)	L6-15R	250V, 2-15A

Additional accessories:
Hot air machine: HCS2041 - Page 38
Power Booster Box: HCS2040 - Page 33
Thermocouples: HCS2010 - Page 86
Vacuum Assembly: HCS2015 - Page 50
Printer Paper/Ribbon: HCS2045 Page 17

HEATCON COMPOSITE SYSTEMS®

Hot Bonders

HOT BONDER COMPARISON GUIDE

		Single Zone					Dual Zone			
	HCS8806	HCS9000B	HCS9000C	HCS9000B-EV	HCS9000FL	HCS9200B	HCS9200B-EV	HCS9200FL	HCS9200M*	HCS9200N
Number of Zones	1	1	1	1	1	2	2	2	2	2
Output Amperage per Zone (Amps)	16	30	30	30	30	30	30	30	30	30
Operating Voltage (VAC)	90-264	90-264	90-264	90-264	90-264	90-264	90-264	90-264	90-264	90-264
Input Frequency (Hz)	47-63	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440	47-63 400-440
Maximum Process Temperature (°F)	500	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1400 (J) 2000 (K)	1000
Primary Heating System	Blanket Hot Air Radiant Lamp	Blanket Hot Air Radiant Lamp	Blanket Hot Air Radiant Lamp	Blanket Hot Air Radiant Lamp	Flightline Blanket	Blanket Hot Air Radiant Lamp	Blanket Hot Air Radiant Lamp	Flightline Blanket	Blanket Hot Air Radiant Lamp	Blanket Hot Air Radiant Lamp
Upper Blanket Size Limitations @ 5 Watts in² at 120V / 220V (120V / 220V)	480 960	720 1440	720 1440	720 1440	720 1440	720 1440	720 1440	720 1440	720 1440	720 1440
Network Functionality (Large Area Repair) (Requires Controller Console)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Operating Environmental Limitations Temperature °F	0-115	32-122	32-122	32-122	32-122	32-122	32-122	32-122	14-130	14-130
Relative Humidity % ± 5%	0-99	0-93	0-93	0-93	0-93	0-93	0-93	0-93	0-93	0-93
Vacuum Source	None	Shop Air	Shop Air	Shop Air / Int Pump	Shop Air	Shop Air	Shop Air / Ext Pump	Shop Air	Shop Air / Int Pump	Shop Air
Vacuum Lines	1 - 10ft	2 - 10ft	2 - 10ft	2 - 10ft	2 - 10ft	4 - 10ft	4 - 10ft	4 - 10ft	4 - 10ft	2 - 10ft
Vacuum Monitoring	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display	On Screen Display
Return Vacuum Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Thermocouple Type	J	J or K	J or K	J or K	J or K	J or K	J or K	J or K	J	J
Thermocouples per Zone	6	10	10	10	10	10	10	10	10	8
Temperature Accuracy	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F	± 1°F
Number of Storable Cure Programs	8	30	30	30	30	30	30	30	30	30
Dwell Time	0-480 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min	0-2000 Min
Max Program Time	0-720 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min	0-2880 Min
Run Separate Programs on each Zone	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes
Run Same Program on Both Zones at the same time	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes
Ramp Rate	1-99	1-99	1-99	1-99	1-99	1-99	1-99	1-99	1-99	1-99
Modify a Program in Process	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Program Steps in a Cure Program	3 Ramps 2 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells	9 Ramps 8 Dwells

Hot Bonder Comparison Guide

HOT BONDER COMPARISON GUIDE

	Single Zone					Dual Zone				
	HCS8806	HCS9000B	HCS9000C	HCS9000B-EV	HCS9000FL	HCS9200B	HCS9200B-EV	HCS9200FL	HCS9200M*	HCS9200N
Full Text-based GUI, Real Language screens	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Variable Units of Measure	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar	F / C InHg kPa mBar
Display Type	Mono chrome	Color LCD	Touch Screen	Color LCD	Color LCD	Color LCD	Color LCD	Color LCD	Color LCD	Color LCD
Sunlight Readable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
User Interface	4 Button	Keypad	Touch	Keypad	Keypad	Keypad	Keypad	Keypad	Keypad	Keypad
Vacuum Pressure Presented Visually	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All TC's Status Presented Visually at Once	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TC Test / Blanket Test Prior to Start Cure	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Export	USB	USB	USB	USB	USB	USB	USB	USB	USB	N/A
Stored Cured Data	Last 6 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures	Last 12 Cures
Data Logging Interval	1 Min	1 Min	1 Min	1 Min	1 Min	1 Min	1 Min	1 Min	1 Min	1 Min
Print Interval	N/A	1-99 Min	1-99 Min	1-99 Min	1-99 Min	1-99 Min	1-99 Min	1-99 Min	1-99 Min	1-99 Min
Password Protection	No	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Printer	No*	1 per Zone	No*	1 per Zone	1 per Zone	1 per Zone	1 per Zone	1 per Zone	1 per Zone	1
Audible Alarm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High Limit Relay	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Loss Recovery	Yes 2 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 0-15 Min	Yes 5 Min
Weight (lbs)	4.1	15	13	29	25	28	38	37	42.5	37
Dimensions (L x W x H)	10in x 6.5in x 2.5in	18in x 13in x 5.75in	13in x 10.5in x 5.75in	21.75in x 14.25in x 6.5in	23.5in x 17 in x 7.75in	21.75in x 14.25in x 6.5in	21.75in x 14.25in x 6.5in	29in x 19in x 9.5in	23.75in x 18in x 7in	29in x 18in x 8in
Removable Lid	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Equipment Storage in Lid	Separate Case	Optional	Separate Case	Optional	Optional	Optional	Optional	No	No	Separate Case
30 Amp Standard Circuit Breaker	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CE Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Blanket GFI Protection	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Hot Bonder Accessory: HCS2070 Printer Station is available for the HCS8806 and HCS9000C to enable printing capabilities.

This and other information from Heatcon Composite Systems® provides product or system options for further investigation by users having technical expertise. Before you select or use any product or system it is important that you analyze all aspects of your technical application and review the information concerning the product in the current product catalog. The user, through their own analysis and testing, is responsible for making the final selection of the system and components and assuring that all performance, safety, and warning requirements of the application are met.

Hot Bonders

HEATCON COMPOSITE SYSTEMS®

Network Controller
HCS9300NW

The HCS9300NW Series Network Controller is used to coordinate the operation of multiple HCS9000/9200 Hot Bonders to accomplish large area cures or thermally complex repair situations where multiple zones are required. The Network Controller centralizes the operator interface, data collection and cure record export functions, and bonder synchronization tasks into one unit, allowing easier management of complex composite repair scenarios.
*HCS9300Z Network Node Hot Bonder requires a HCS9300NW Network Controller to operate.

The HCS9300Z Network Node Hot Bonder has the basic components of a hot bonder without a user interface. The unit uses a high technology combination of hardware and software to accomplish large or complex composite repair and parts fabrication. The Network Node serves as an alternative to using a standard hot bonder, saving size and weight, with maximum portability. All operation is controlled through the HCS9300NW Network Controller.

Image not to scale
Hot Bonders sold separately

Accessories Included:
• Power Cords
• Network Cables
• Data Capture Analysis Software
• Extra Printer Ribbon and Paper
• Removable Storage Lid
• USB Drive

Specifications

Weight	15lbs (6.8kg)
Dimensions	18in x 13in x 5.75in (45.7cm x 33.02cm x 14.6cm)
Network Ports	13
Power	90-264VAC (47-63Hz)
Alarm	Dynamic / Control Integration
Screen	High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in)
Up to 25 Networkable Zones Available	
Up to 16 Zones Running a Common Program	
Power Failure and Connection Loss Auto Recovery	
USB Interface for Data Export to USB Storage Device	

![HEATCON COMPOSITE SYSTEMS logo]

Thermal Couple Expansion Unit
HCS9320E / HCS9340E

HCS9340E Model
40 TC Expansion Unit

The HCS9300E Series Thermocouple Expansion Unit is a device that expands the thermocouple channels from the 20 inputs available on the HCS9200B-AV Hot Bonder to 40 or 60 inputs total. Increasing thermocouple channels in the HCS9200B Hot Bonder significantly expands the capability of heat controlling and monitoring across complex and/or large aircraft structure surfaces.

Product Features:

- Allows for an additional 20 or 40 thermocouple inputs
- Available for Type J or K thermocouples
- Cure data recorded/stored on connected hot bonder
- Data activity light indicates proper connection
- Internally stored calibration data with serial number
- Heatcon hot bonder Rev 18 (or later) required for operation
- Compatible with HCS2051-01 calibration kit

EXPAND THERMOCOUPLE INPUTS FOR THERMAL SURVEYS!

HCS9320E Model
20 TC Expansion Unit

Accessories Included:
- Power Cords
- Serial Data Cable
- Thermocouples
- Operations Manuel

Specifications

Specifications	
Weight	8.75lbs (4kg)
Dimensions	13in x 10.5in x 5.75in (330mm x 267mm x 146mm)
Interface/Display	Requires Heatcon Hot Bonder
Power	90-264VAC (47-63Hz), 2 Amps
Thermocouple (TC) Jack Options	20 or 40
Connectivity	Heatcon Serial Data Cable
Operating Environment	32-122°F, 0-93% Humidity
Temperature Range (Type J)	Ambient to 1,400°F
Temperature Range (Type K)	Ambient to 2,000°F
Temperature Accuracy	+/- 1°F
Temperature Resolution	1°F
Two models available in this series: HCS9320E (20 TC inputs) and HCS9340E (40 TC inputs)	

HEATCON
COMPOSITE SYSTEMS®

Multizone Composite Repair System
HCS9306R

The HCS9306R is a six zone composite repair system used to accomplish large area cures or thermally complex repair situations where multiple zones are required. The multizone composite repair system brings together six independent hot bonders into a convenient mobile rack, allowing easier management of complex composite repair scenarios. The multizone system is intended for use in shop repair and manufacturing applications.

Multizone Back Panel
Features a 6-zone System

ZONE operation
based on Proven Heatcon HOT
bonder Technology!

Accessories Included:
- Power Cords
- Network Cables
- Extra Printer Ribbon and Paper
- Data Capture Analysis Software
- USB Drive

Specifications	
Weight	200lbs (91kg)
Dimensions	56in x 23in x 26in (1423mm x 584mm x 660mm)
Expansion Ports	04
Input Power	380-415VAC (50-60Hz), 3 phase
Output Power	220-240VAC (50-60Hz), 1 phase
Alarm	Dynamic / Control Integration
Screen	High-Resolution, Software Dimmable, and Sunlight readable LCD Screen (5.25in x 6.75in)
Amps Maximum	30 AMP per zone
Thermocouple	10 per zone, 6 zones available
Up to 6 Zones Available	
Up to 4 Groups of Zones Running a Common Program	
Power Failure and Connection Loss Auto Recovery	
USB Interface for Data Export to USB Storage Device	

Product Features:
- Integral ground fault protection with resettable circuit breakers
- 4 auxiliary network ports for connecting additional hot bonder systems
- Built in electric vacuum pump
- Standard thermocouple jacks, power, and vacuum connectors
- Built in printer
- Alternate zone and power configurations upon request

Bonder Calibration Kit
HCS2051

The HCS2051 Hot Bonder Calibration Kit is used to perform equipment calibration, traceable to N.I.S.T. standards for FAA and other regulatory body certification.
Proper use of this equipment may eliminate the requirement to send your composite repair system off-site for calibration and certification, reducing repair downtime.
This kit also allows a calibration lab to be functional with a single purchase. Items provided can be used to calibrate most Heatcon composite repair systems. Yearly calibration recommended.

NSN: 4940-01-552-2122

Ensure that your Heatcon Hot Bonder is Calibrated and operating at peak performance!

Specifications:	
Weight	5.5lbs (2.5kg)
Dimensions	17.25in x 12.25in x 3.5in (43.82cm x 31.12cm x 8.89cm)

The HCS2051 Bonder Calibration Kit is designed for use with HCS9000/9200B, HCS9000C, HCS8806, HCS9200M, and HCS9000/9200FL.

Accessories Included:
• Digital Temperature Calibrator
• Thermocouple Interconnect Cable
• Protective Case
• Calibration Vacuum Gauge
• Hose Assembly & Adapter

HEATCON COMPOSITE SYSTEMS®

Data Capture and Analysis Software
HCS-DCAS

The Data Capture and Analysis Software (HCS-DCAS) is a visual graphical program used for cure evaluation and to create / store a history of cure records for maintenance repair organizations.

Cure Records

Software Package Includes:
Data Capture Software Flash Drive
Installation Guide

System Requirements:
Windows® Compatible[1]
Serial (DB9) or USB Connector
For legacy bonders equipped with a DB9 serial port, the HCS9000-74-100 Serial Cable is required for data export
For PCs not equipped with a DB-9 (RS-232) serial port, the HCS1018-020 USB to Serial Adapter is available
Note: Hot Bonder software revisions .8A - .8H require Data Export Software to be installed on the Hot Bonder

Features:
Summary and Detailed Graph Display of Cure with Time, Temperature, and Vacuum
Events Log Page with Time-stamped Alarms, Program Changes, Power-loss Events, and Program Step Changes
Cure Records Database with Ability to Easily Search for Individual or Groups of Cures by Single or Multiple Fields
Built-in Excel Spreadsheet Format Data Export
Built-in Print Function for any page of the Cure
Record, Enabling Hard copy Distribution and Record Retention
[1]Windows is a Registered Trademark of Microsoft Corporation. All Rights Reserved.
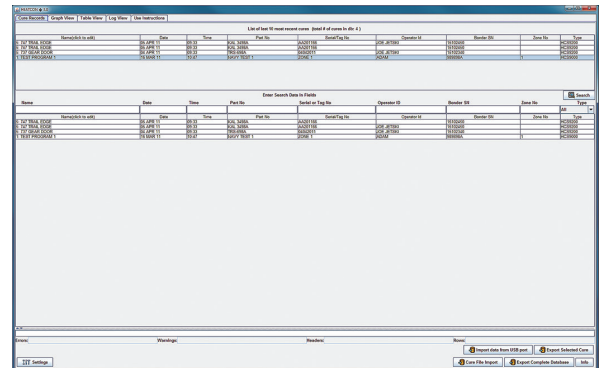
Graph View

Table View

Available as a FREE Download. Call your representative for more information.

Part Number	Description
HCS-DCAS-04	Data Capture Software
HCS9000-74-100	Serial Cable
HCS1018-020	USB to Serial Adapter
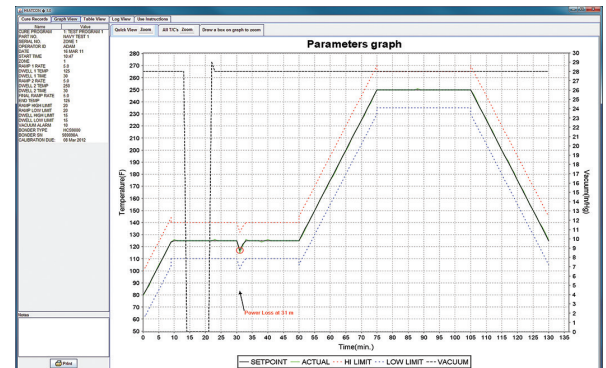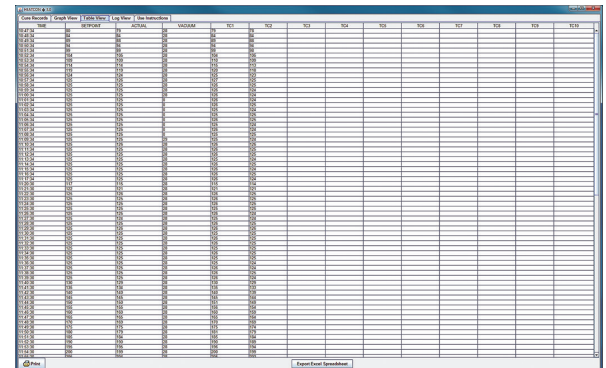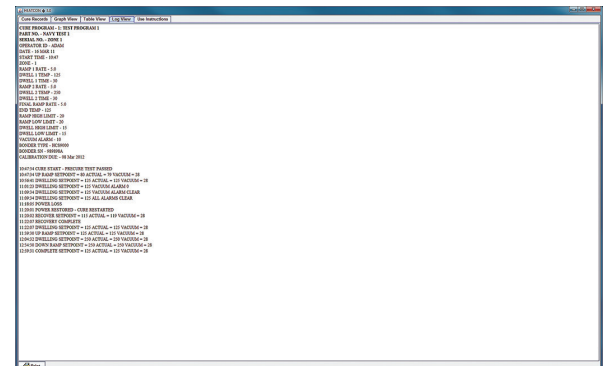
Log View

Power Booster Box
HCS2040

The HCS2040 series Power Booster Box is designed to connect directly to the output from your HCS9000/HCS9200 series Hot Bonder. Three-phase power is supplied to the booster on a separate circuit, and is internally switched to control your large repair. The Power Booster Box is capable of controlling up to six blankets.
An emergency stop is included for operator safety.

Allows operation of up to six blankets at the same time!

Typical Setup:

Input Power 120/240V

Power In 3 Phase

Heat Blanket

Heat Blanket

Heat Blanket
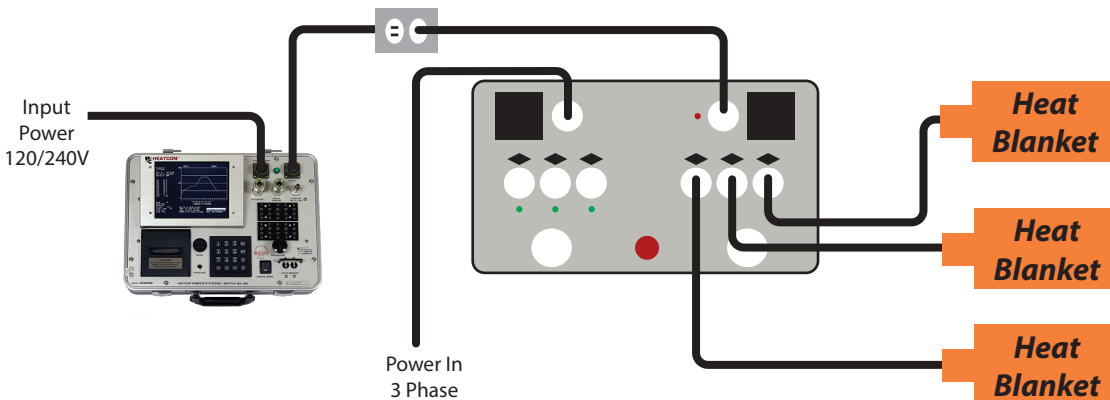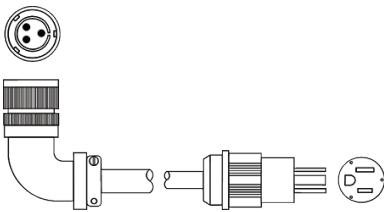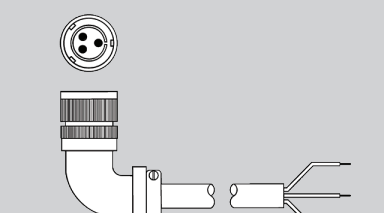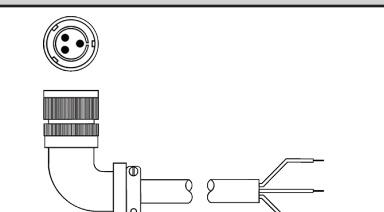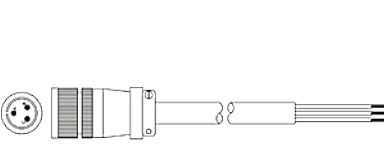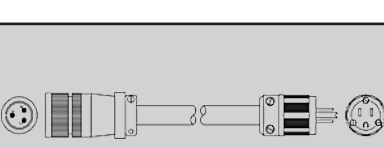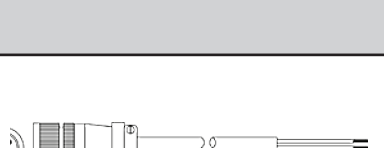
Accessories Included:
• Power Cords
• Bonder Interface Cable
• Specific accessories are described by quotation

Specifications:	
Weight	40lbs (18.1kg)
Dimensions	24.5in x 15in x 12in (62.2cm x 38.1cm x 30.4cm)

HEATCON COMPOSITE SYSTEMS®

Hot Bonders

B-Model Equipment Input Cables				
Description	**Image**	**Part Number[2]**	**Color Code**	**Wire Support**
Input Power Cable - with plug		HCS9000-70-145	**U.S.** Black White Green	30A @ 125VAC 15A Installed Plug
Input Power Cable - without plug[1]		HCS9000-70-140	**U.S./ASIA** Black White Green	30A @ 250VAC
Input Power Cable - without plug[1]		HCS9000-70-150	**EUROPEAN** Brown Blue Green	30A @ 250VAC
HCS8806 - Equipment Input Cables				
Input Power Cable - without plug[1]		HCS2001-46	**U.S.** Black White Green	15A @ 250VAC
Input Power Cable - with plug		HCS2001-49	**U.S.** Black White Green	125VAC 15A Installed Plug
Input Power Cable - with plug		HCS2001-50	**EUROPEAN** Brown Blue Green	15A @ 250VAC

[1]User installs plug.
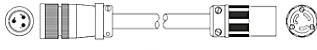**[2]Part of Standard Accessory Package. Based on Customer Requirements.**
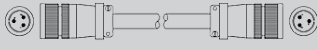
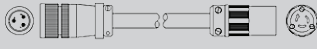# Equipment Output Cables
B-Model Output Cables

B-Model Equipment Output Cables							
Description	Image	Part Number	Lead Length	Blade Type	NEMA	Volts	Amps
Output Power Cable - with Receptacle		HCS9000-71-220	5ft (1.52m)	Twist Lock	L5-30	125V	30A
Output Power Cable - with Receptacle		HCS9000-72-220	5ft (1.52m)	Twist Lock	L6-30	250V	30A
Output Power Cable - with Receptacle		HCS9000-72-225	10ft (3.05m)	Twist Lock	L6-30	250V	30A
Output Power Cable - with Receptacle		HCS9000-71-225	10ft (3.05m)	Twist Lock	L5-30	120V	30A
Output Power Cable - Duplex Receptacle		HCS9000-72-170	5ft (1.52m)	Straight	6-15	250V	2-15A
Output Power Cable - Duplex Receptacle		HCS9000-71-145	5ft (1.52m)	Twist Lock	L5-15	125V	2-15A
Output Power Cable - Duplex Receptacle		HCS9000-72-180	5ft (1.52m)	Twist Lock	L6-15	250V	2-15A

Hot Bonders

HCS8806 - Equipment Output Cables							
Description	Image	Part Number	Lead Length	Blade Type	NEMA	Volts	Amps
Output Power Cable with Receptacle		HCS2005-57	5ft (1.52m)	Straight	6-15	250V	15A
Output Power Cable with Receptacle		HCS2005-60	5ft (1.52m)	Pin / Socket	CA Style	125V 250V	20A
Output Power Cable with Receptacle		HCS2005-61	5ft (1.52m)	Twist Lock	L5-15	125V	15A
Output Power Cable with Receptacle		HCS2005-62	5ft (1.52m)	Twist Lock	L6-15	250V	15A

Heatcon Composite Processing Equipment

To better support the needs of our customers, Heatcon has developed various processing equipment, including debulking tables, RepairClaves, and other alternate heating sources. Utilizing a familiar user interface, or being controlled directly by Heatcon Hot Bonders, our processing equipment makes it easy to run programs regardless of the equipment you are using. Engineered with the same rugged design as our Bonders, Heatcon's processing equipment is built to last.
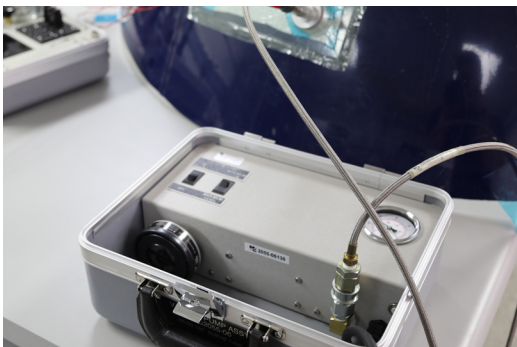
Process Equipment

RepairClaves and Debulking Chambers
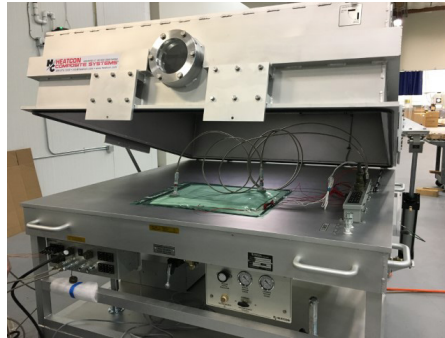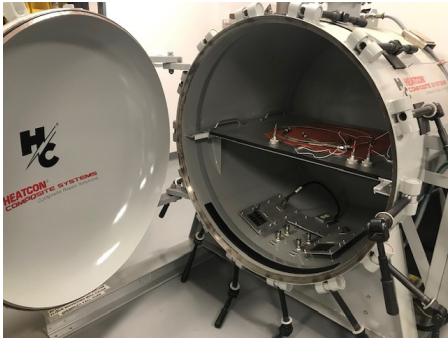
Hot Air Machines and Heat Lamps

Vacuum Pumps

HEATCON COMPOSITE SYSTEMS®
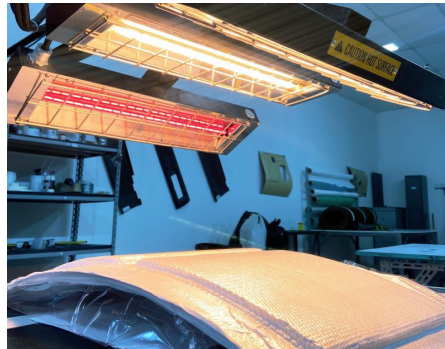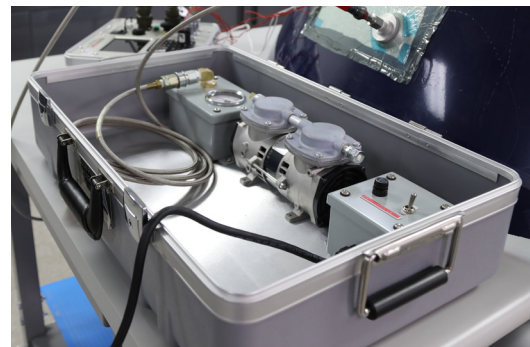
Process Equipment
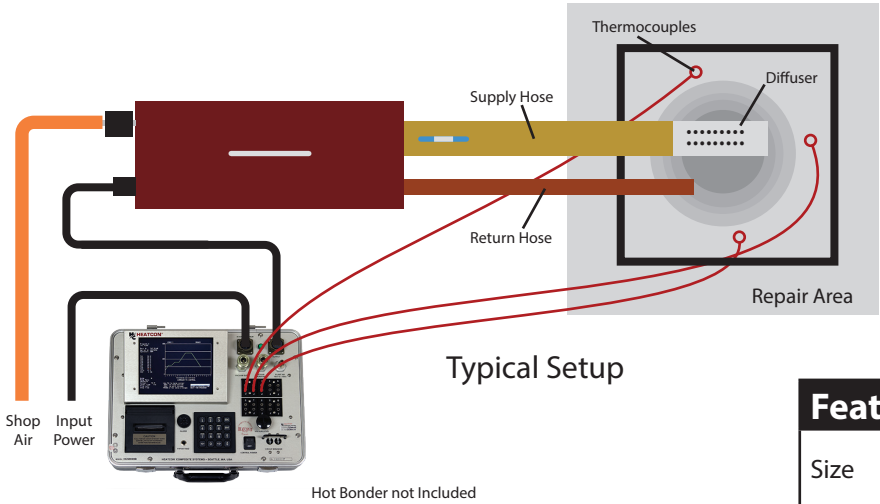
HCS2041-01
NSN: 4920-01-462-4759
HCS2041-02
NSN: 4920-01-462-4768

Apply heat to difficult shapes and hard to reach areas where a standard heat blanket cannot be used.
Controlled by Heatcon Hot Bonders, this unit comes with a hot air generator, high temperature hoses, insulated shrouds and an air diffuser.
The HCS2041 is capable of heating a 30in x 30 in (76.2cm x 76.2cm) area at 250°F (121°C)

MODELS			
Model	**Power**	**Input**	**Coverage Area**
HCS2041-01	1800W	110 / 120V	19in x 19in (48cm x 48cm)
HCS2041-02	3000W	220 / 240V	24in x 24in (61cm x 61cm)
HCS2041-03	6000W	220 / 240V	30in x 30in (76cm x 76cm)
HCS2041-04	3600W	110 / 120V	24in x 24in (61cm x 61cm)

Apply controlled heat evenly to contoured surfaces!

Thermocouples

Supply Hose

Diffuser

Return Hose

Repair Area

Typical Setup

Shop Air   Input Power

Hot Bonder not Included

Features	
Size	22in x 8in x 6.5in (55.39cm x 20.3cm x 16.5cm)
Weight	9 lbs (4kg)
Safety	Internal High Limit
Plant Air	80psi / 4CFM

Hot Air Curing System / Controller for Large Equipment
HCS2041 / HCS2910

Heatcon HCS2041 is capable of being mounted on a pivoting stand to assist in heating the hard to reach areas. Each of our units are capable of being mounted on the stand. To find out the best solution for your needs, give us a call, and we will discuss your needs and find the best product for you.

Can be mounted for use in hard to reach areas!

The Heatcon HCS2910 controller is capable of controlling large ovens, operating on a similar interface as a Heatcon Hot Bonder. Give us a call to find out if our controller is able to work with your oven or if you are interested in adding an oven to your shop.

HEATCON COMPOSITE SYSTEMS ®

Process Equipment

Infrared Curing System
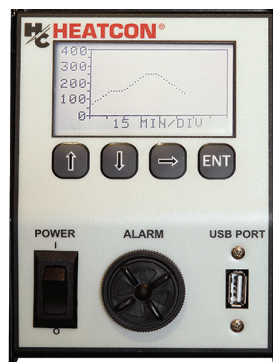## HCS2044

HCS2044-10-T

Weight	130lbs (58kg)
Frame Dimensions	65.5in x 32.5in x 40in (166cm x 82cm x 101cm)
Head Dimension	20.5in W x 23in H x 2in D (52.07cm W x 58.42cm H x 5.08cm D)
Input Power	240VAC, 50-60Hz., 1 Phase, 14A
Output Power	3000W
Head Lamp Modules	3

HCS2044-20-T

Weight	145lbs (65kg)
Frame Dimensions	65.5in x 45in x 40in (166cm x 114cm x 101cm)
Head Dimension	45in W x 23in H x 2in D (114.3cm W x 58.42cm H x 5.08cm D)
Input Power	240VAC, 50-60Hz., 1 Phase, 28A
Output Power	6000W
Head Lamp Modules	6

Distinct Specifications

Arm Length	54in (137cm)
Head Pivot Height	34in to 76in (86cm to 193cm)
Head Swivel Left-Right	-90 to +90°
Head Swivel Up-Down	-90 to +90°
Head Lamp Angles	Fully open straight (2X 180°) to fully closed (2X 60°)

Standard Features

Item Number	Feature
1	Pneumatic Spring Assist
2 or 3	Selectable Control: IR Sensor or Six Thermocouples
4	Fused System for Safety
5	Cable Hook for Easy Storage
6	Welded Steel Construction
7	Powder Coated Finish
Industrial Grade Components	
HCS2070 Printer Station Compatible	
CE Certified	
*** Plug not included**	

Controller

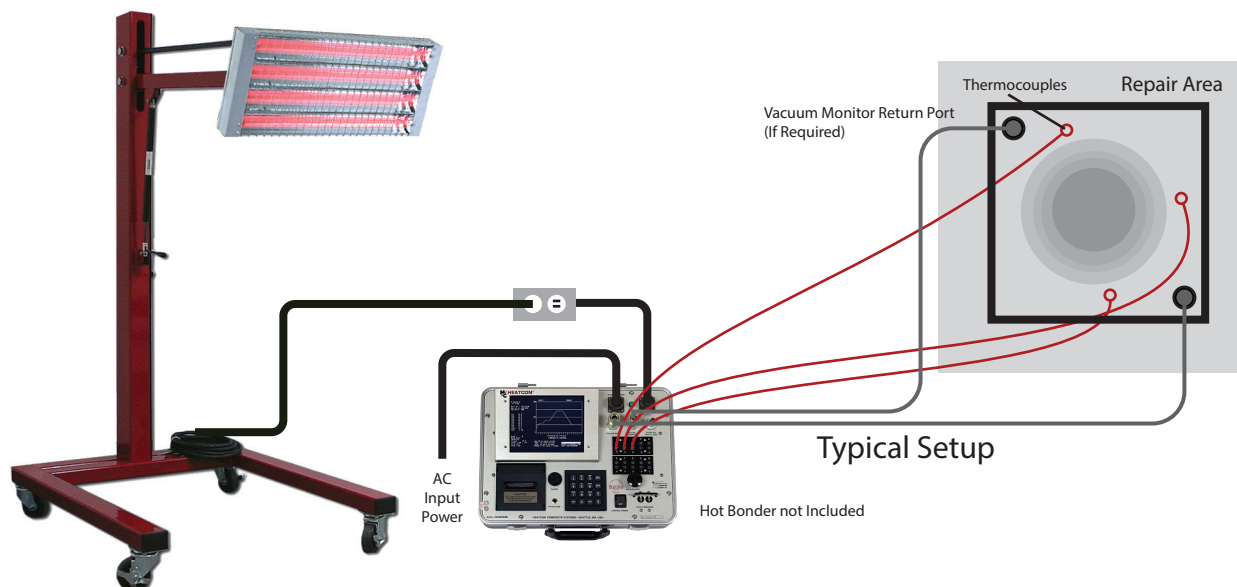| |
|---|
| LCD Display Screen |
| Programmable Ramp and Soak Settings |
| Data Export via built in USB port |
| Easy to Operate & Control |

HCS2044 models use high-efficiency, electric quartz infrared heat elements that provide non-contact radiant heat to the surface of the heated part to accelerate the cure of two part resin systems, paint, primers and other coatings. Featuring an adjustable head, heat can be directed where it is needed.

Hot Bonder Controlled Heat Lamps
HCS2044

Thermocouples   Repair Area

Vacuum Monitor Return Port
(If Required)

Typical Setup

AC
Input
Power

Hot Bonder not Included

HCS2044-30-02 Series

HCS2044-30-02-120 / 220	
Wattage	3600W
Head Dimension	26in W x 12in H x 2in D (66.04cm W x 30.48cm H x 5.08cm D)
Controlled with Hot Bonder	
HCS2044-30-01-120 / 220	
Wattage	1600W
Head Dimension	12in W x 12in H x 2in D (30.48cm W x 30.48cm H x 5.08cm D)
Controlled with Hot Bonder	
Standard Stand Size	
Height	68in (172.72cm)
Width	31in (78.74cm)
Depth	40in (101.6cm)

HCS2044-30-01 Series

The primary system application is to accelerate the cure of two-part resin systems, paint, primers and other coatings. Head configurations can be custom designed to meet your needs

HEATCON
COMPOSITE SYSTEMS®

RepairClave
HCS3100

Process Equipment

Example Shown: HCS3100-36-120
US Patent - 7,137,799
Canadian Patent: 2,534,014

Our patented HCS3100 RepairClaves are custom built semi-portable pressure vessels. They are designed to provide controlled temperature, vacuum, and pressure during composite and metal bond repair processes.

The positive internal pressure applied to the repair enables operators to achieve the higher pressure when required by aircraft manufacturer repair manuals. Heat is applied only where required using specially constructed silicone rubber heat blankets. This method results in reduced operational costs and fewer problems due to temperature induced part damage.

SPECIFICATIONS	
Dimensions*:	• Standard lengths start at 3ft (36in), progressing in 3ft increments, up to 30ft (360in) • Inside diameter: 3ft - 8ft (36in - 96in) • Length may be customizable upon request
Recommended Power Requirements:	• 120-240V 1-Phase to 480V 3-Phase • Amperage will depend on customer configuration requirements • Other Voltages, Multiple Zones, and Phase Configurations Available
Operating Pressure:	• ASME certified pressure vessel rated at 150 psi maximum pressure at 400°F • Nominal operating pressure is 100 psi • Certified Pressure Relief Valve built in, per ASME to ensure vessel safety
Construction:	• Vessel: Constructed from certified rolled plate steel material (SA516-70) • Vessel stamped with final ASME Hydrostatic Test on permanently affixed data plate • Closures: Sinlge Hinged or Automatic Hydraulic • Fixed (Closed) End - Welded Domed Tank Head • Locking Casters and Floor Jacks for mobility and stabilization • Additional Auxiliary Ports for future expansion • Fire Suppression System
Calibration:	• 1 Year Intervals recommended by Heatcon Composite Systems
Re-Certification:	• No Annual Certification of the Pressure Vessel required
(Please check local government directives which may supersede this requirement)	

RepairClave
HCS3100

*Example Shown:
HCS3100-36-36*

Internal Connectors for ease of use

Optimized Interior Space
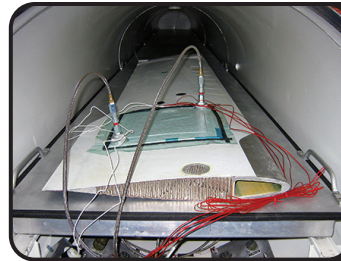

Customized Control Panels

Features:
- Lighted Interior
- Removable Part Carrier
- Internal Connections for Heat Blankets, Vacuum, and Thermocouples
- Built in Electric Vacuum Pump
- Adjustable Operating Pressures
- Safety Indicator for Vessel Pressure
- Flanged Access Ports for Additional Options

Typical Applications:
- Rotor Blades • Ailerons • Rudders
- Wing Flaps • Winglets • Elevators

CUSTOM SIZES AVAILABLE TO SUIT YOUR APPLICATIONS!

*Example Shown:
HCS3100-48-360*

HEATCON
COMPOSITE SYSTEMS®

Heated Debulking and Curing Table
HCS7500

HCS7500-07 shown

The primary system application is curing and debulking of large size composite parts. This can be a difficult process, but Heatcon Composite Systems has addressed this with our HCS7500 Series of Heated Vacuum Debulking and Curing Tables. By utilizing this equipment, debulking and curing of large panels can be accomplished with less time and less expense as compared with other methods. There are four different sizes and multiple options to choose from. Custom manufacturing of tables to customer requirements is also available.

MAKING EASY WORK OF
LARGE PART REPAIRS!

SPECIFICATIONS:

HCS7500	-06	-07	-08	-09
Length	60in (152.4cm)	72in (182.9cm)	72in (182.9cm)	120in (304.8cm)
Width	48in (121.9cm)	48in (121.9cm)	60in (152.4cm)	60in (152.4cm)
Height	36in (91.4cm)	36in (91.4cm)	36in (91.4cm)	36in (91.4cm)

Standard Features:
- **Welded Aluminum Tube Frame**
- **Locking Caster Wheels**
- **Reusable Vacuum Bag Assembly**
- **Electric Vacuum Pump System**
- **Temperature Range to 400°F (204°C)**
- **HCS9000 Panel Mount Control System**
- **Thermocouple Monitor Ports 0, 8, or 10**

Options:
- **Input Power - 240V (Model -06), 380V, 480V (3 Phase)**
- **Lid - None, Standard, or Insulated**
- **Electric Vacuum Pump or None (plumbing only)**
- **Vacuum Gauge (In-Hg / kilopascals or Millibars)**

Double Vacuum Debulking (DVD) Chamber HCS7600

OUTSTANDING POROSITY REDUCTION CAPABILITY!

The HCS7600 series DVD Chamber is a custom designed, double vacuum, debulking chamber used for debulking composite repair patches resulting in a near-autoclave quality repair.

DVD Chamber operation is an operator and/or repair-specific combination of traditional Hot Bonder controlled heat and bag-vacuum with operator controlled chamber vacuum.

The DVD Chamber is capable of holding 28 in/Hg vacuum over an extended period of time and is adjustable via an on-board vacuum regulator.

Standard Features:
- Aluminum Construction
- Pneumatically Operated Chamber Lid
- Smooth table surface
- Hot Bonder Interface Panel to pass control and power through the platen to the chamber interior
- Built-in vacuum regulator
- Sight Glass on 48in^2 and larger
- Interior Task Light on 48in^2 and larger
- Locking / Rolling Casters

Options:
- Storage Shelves and Drawers
- Electric Vacuum Pump for Chamber Vacuum

HEATCON COMPOSITE SYSTEMS®

Process Equipment

Vacuum Control Panel

Hot Bonder Interface Panel

Caul Plate

T/C & Heat Blanket Connections

Heat Blanket

Insulation Pad

Vacuum Channel

Please refer to "Authorized" documents for proper lay-up and repair procedures.

Model: HCS7600-05 Series

The HCS7600-05 series is a custom designed portable double vacuum, debulking (DVD) chamber. The DVD chamber supports processing of high
ply-count composite laminate repair patches in a single cycle.

The DVD chamber allows a unique combination of pressure and temperature parameters which provides an improved ability to remove volatiles during debulking of thick laminates. The DVD chamber is capable of holding 28 in/Hg vacuum, either supplied from a hot bonder or facility source, over an extended period of time. The chamber and bag vacuum levels are operator adjustable via on-board vacuum regulators.

Accessories Included:

- Insulation Pad
- Heat Blanket
- Caul Plate
- Thermocouples
- Power Cables
- Vacuum Hose

Specific accessories are described by quotation

SPECIFICATIONS:	
Dimensions	Exterior: 30.375in x 25.625in x 10in (77.15cm x 65.08cm x 25.4cm)
	Interior: 24.5in x 22.5in x 4in (62.23cm x 57.15cm x 10.16cm)
Weight	88 lbs (39.9Kg)
Working Area	18in X 18in (45.72cm x 45.72cm)
Control Input	One (1) Control Zones, 120-240/60/1 from HCS9000/HCS9200 Series Hot Bonder
Maximum Plate Temperature	250°F (121°C) – Material strength decreases significantly when temperatures exceed 250°F.
Maximum Heater Load	1620 Watts
Operating Environmental Limitations:	Temperature: 0° – 122° F (-17° – 50° C) Relative Humidity: 0 – 99 %
Interior 'Bag Vacuum'	Determined by vacuum source
Interior 'Chamber Vacuum'	Determined by vacuum source
2 Vacuum Monitoring Guage	0-30 in-Hg

OUTSTANDING POROSITY REDUCTION CAPABILITY IN A COMPACT UNIT!

Positive Pressure Clamps
HCS2034

Specifications:	
Weight	31lbs (2.3kg)
Dimensions Available	39.375in x 14.75in (100cm x 37.47cm)
	19in x 14.75in (48.26cm x 37.47cm)
Operating Pressure:	10 PSI nominal, 15 PSI Maximum
Pressure Bladder Area:	12.5in x 12.5in (31.75cm x 31.75cm)
Adjustable Height and Pressure Area Placement	
Two types of clamps are available in this series: Single Bladder Clamp or Dual Bladder Clamp (HCS2034-05)	

The HCS2034 series Positive Pressure Clamps are custom designed to be used on-location or localized "on-blade" repairs that require a positive pressure application. These clamps enable repairs to be made on the aircraft which greatly reduces track and balance issues and provides additional labor and operational cost savings. The bladder assembly and/or padded base can be reversed for even greater possibilities.

Custom configurations are available upon request.

Vacuum Generator
HCS2025

Process Equipment

Single Vacuum Models
HCS2025-01 Single, in/Hg
HCS2025-02 Single, mb

Dual Vacuum Models
HCS2025-03 Dual, in/Hg
HCS2025-04 Dual, mb

Our lightweight, rugged and portable vacuum generator is designed to provide regular vacuum pressure for a wide range of applications. The HCS2025 can achieve up to 28 in/Hg or 933.33mb vacuum pressure. It can be used in conjunction with our composite repair systems for large area repairs or as a stand alone unit for wet lay-up repairs.

This unit features a vacuum gauge for precise readings and a brass regulator for exact control. Vacuum can be measured inches/Hg or Millibars. Positive air pressure of 80-100psi is needed to operate this device.

Both single vacuum source or dual configurations are available (see part number variations above image). The dual unit can be used to provide vacuum to two separate repairs or to provide vacuum to a double bag lay-up for use with our HCS2046-02 Phosphoric Acid Anodizing Kit.

Specifications:	
HCS2025-01/02	
Weight	4lbs (1.8kg)
Dimensions	10.25in x 6in x 5in (26.04cm x 15.24cm x 12.7cm)
HCS2025-03/04	
Weight	8 lbs (3.6 kg)
Dimensions	13.5 In X 9.0 In. X 8.0 In. (330mm X 229mm X 203mm)

HEATCON COMPOSITE SYSTEMS®

Electric Vacuum Pump
HCS2055
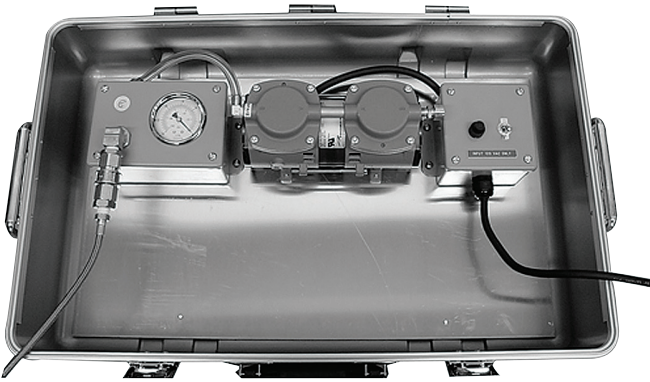
HCS2055-02 120V Version
HCS2055-04 220V Version

HCS2055-02
NSN: 4130-01-471-6437

Specifications:

Weight	29lbs (13kg)
Dimensions	24in x 15in x 9in (60.96cm x 38.1cm x 22.86cm)

This Accessory Case with Electrical Vacuum Pump is capable of delivering 28+ in/Hg (0.967kg/cm^2) at 1 cubic ft/min (472cm^3/sec) per and is equipped with power switch, fuse and built-in vacuum gauge. The lid of the case has a large storage compartment with a hinged divider and push button latches. The lower section of the case has additional storage capacity for hoses and cords. An "F" adapter (HCS2016-06) and two vacuum hoses with sniffer are also included.

Portable two-stage Electric Vacuum Pump for small to medium sized composite repairs. Unit has two modes of operation, maximum flow and maximum level. Maximum flow is 0.75 cubic ft/min (354 cm^3/sec) and used for initial bag pull-down and seal. Maximum level is 28+ in/Hg (0.967kgs/cm^2) and used for final cure vacuum.

This unit includes universal power input for operation anywhere in the world (47-63Hz, 100-250VAC). The removable accessory case lid holds a vacuum hose assembly. There is also an internal power cord storage area (shown). Vacuum hose included with vacuum pump.

HCS2055-04
NSN: 4130-01-471-6444
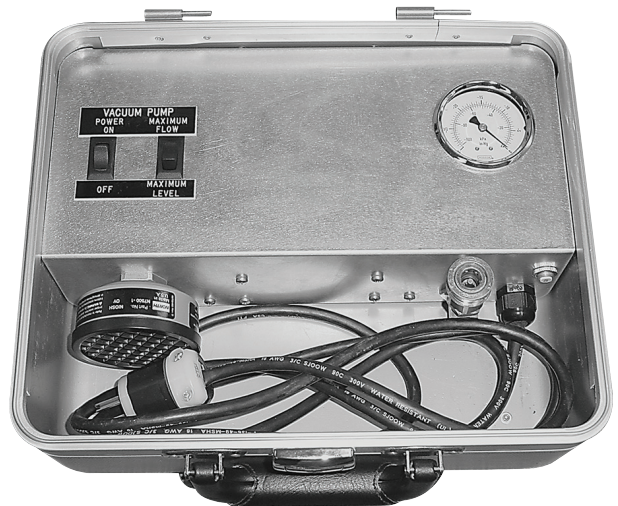
HCS2055-06
100-250V

Specifications:

Weight	13lbs (5.9kg)
Dimensions	3.75in x 12.25in x 7.5in (34.93cm x 31.12cm x 19.05cm)

Process Equipment

HEATCON COMPOSITE SYSTEMS®

Vacuum Leak Checker | Vacuum Hose and Sniffer Assembly
HCS2018 | HCS2015

Process Equipment

Vacuum Leak Checker

The HCS2018 Vacuum Leak Checker can help prevent one of the most common problems associated with composite fabrication and repair - loss of vacuum pressure during the cure process. This device allows you to check the integrity of your vacuum seal before you cure your composite lay-up.

The vacuum leak checker can be used in conjunction with autoclaves, ovens and composite repair systems (hot bonders). This simple yet effective system can detect the presence of hidden leaks before they damage a valuable part.

Specifications:

Vacuum - 0-30 in/Hg
Used with HCS2015-06 Vacuum Sniffer

Vacuum Hose / Sniffer Assembly

Specifications:

Collapse-proof, high temperature Teflon® hose
Stainless steel braided protective wrap to prevent crushing and abrasion
Quick release fitting for ease of operation and vacuum integrity
250°F (121°C) High temperature 450F (Oven Use) versions available
High temperature machined aluminum vacuum sniffer

The HCS2015 Vacuum Hose/Sniffer Assemblies are designed to eliminate problems such as vacuum leaks and collapsed vacuum lines. It is intended for use with both composite repair systems and curing ovens.

HCS2015	-05	-08	-11	-32	-33
Length (ft)	10	20	6	15	30

HCS2015-05
NSN: 4310-01-471-6433

RepairClave Vacuum Hoses

AUTOCLAVE/OVEN VACUUM HOSE
A very flexible, durable, aramid fiber-reinforced hose manufactured specifically for autoclave, oven, and room-temp vacuum processes. This hose has become one of the best-selling vacuum hoses in the composites and laminating industry. Its resilient outer covering helps prevent bag punctures, mold damage, and injuries to users, and the aramid reinforcement is superior to fiberglass and other reinforcements. The hose is available with a wide array of end fittings, including female 45° SAE and 37° JIC for use as mold and fixture vacuum plumbing lines.
- Rated for 400°F continuous, 500°F intermittent.
- Aramid fiber-reinforced silicone construction.
- Stainless steel liner for use in autoclave pressures up to 150 PSI.
- Available in two sizes: .38" ID x .75"OD & .50" ID x .85" OD.
- Standard pricing includes straight 1/4" male NPT end fittings.
- 90° male NPT, female NPT, female 45° SAE and 37° JIC, ¼" male BSPT, and ¼" male BSPP optional.
- Customized end fittings available.

Stainless Steel Liner Prevents Collapse While Providing Flexibility

Two Layers of Silicone with Nomex Reinforcement

Brass End Fitting

Brass Ferrule

1/4", 3/8", or 1/2" Female 37° JIC

1/4", 3/8", or 1/2" Female 45° SAE

1/2" Female NPT

3/8" Female NPT

1/4" Female NPT

1/2" 90° Male NPT

3/8" 90° Male NPT

1/4" 90° Male NPT

1/2" Male NPT

3/8" Male NPT

1/4" Male NPT, BSPT, or BSPP

HEATCON COMPOSITE SYSTEMS®
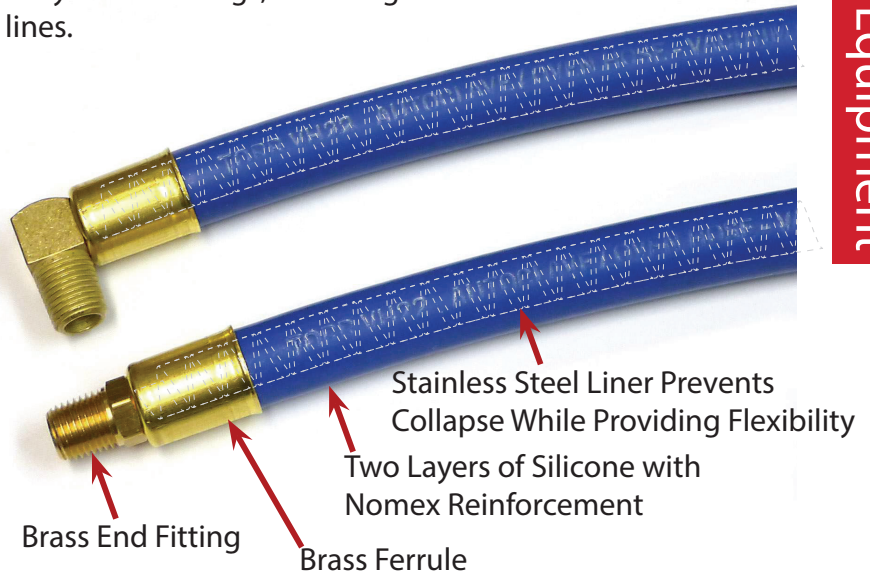
Radome Moisture Meeter | Ultrasonic Leak Detector
HCS2049 | HCS2038

Radome Moisture Meter

HCS2049-01 115V
HCS2049-02 220V

The HCS2049 Radome Moisture Meter indicates moisture levels in aircraft radomes. A patented dielectric radio frequency power-loss absorption method is used to determine moisture levels.

Features:

Features
• Direct reading scale for instantaneous reading of Good, Fair, Poor and Unacceptable radome moisture levels.
• Spring-loaded contact points allow nondestructive testing of irregular radome surfaces.
• Separate electrode gun permits testing in remote areas.
• Rechargeable Ni-Cad batteries.
• Available with 115V or 220V battery charger
• Maximum 2.5 to 3.0cm measurement depth

Kit Includes:
• Metering unit
• Electrode gun
• Separate charger

Ultrasonic Leak Detector

The HCS2038-02 Ultrasonic Leak Detector is ideal for detecting and locating sources of vacuum leaks through the use of sophisticated electronic circuitry. The Ultrasonic Leak Detector incorporates an internal noise control that eliminates interference from audible noise and detects only high frequency sounds caused by vacuum leaks.

Multiple Uses:

- Vacuum Bag Leaks
- Leaks in Compressed Air Systems
- Diagnosing Solenoid Operations
- Detecting Electric Arcing
- Detecting Gas Leaks
- Locating Worn Bearings

Specifications:

Specifications	
Weight with battery	9oz (255g)
Operating Temp	32° to 140°F (0° to 50°C)
Power	9VDC (Battery)
Includes	9V Battery, Rubber Probe Extension, Headphones, Storage Case

Custom Control Panels

Front of Control Panel
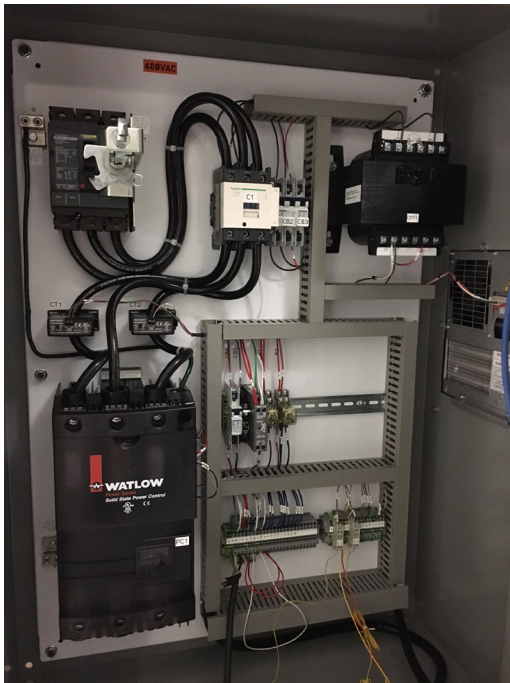
Inside Control Panel

For those applications where a portable composite repair system is not the best choice, we can provide custom heat control systems to suit your requirements.
- Composite Fabrication
- Larger Infrared Heat Lamps
- Oven Control
- Refrigeration Control

Simply provide us with your requirements and we will provide the solution.

Capabilities:
- UL 508 Listed Industrial
- Standard or Made-to-Order
- Single and Multiple OEM
- Complete Systems Integration

Available Options:
- Controls:
    - Single and Multizone
    - Temperature Limit
    - Timers, Counters, Panel Meters
    - Chart Recorders
    - Programmable Logic
    - Operator Interface Terminals
- Relays:
    - Contractor
    - Mercury Displacement
    - Solid State
    - Motor Starters and Drives
- Enclosure Ratings:
    - NEMA 12 Dust Resistant (standard)
    - NEMA 4 Moisture Resistant
    - NEMA 4X Corrosion Resistant
    - NEMA 4/7 Moisture/Explosion Resistant
    - NEMA 7 Explosion Resistant

Heat Blanket Construction

Heat Blanket Circuit Spacing & Quality Comparisons
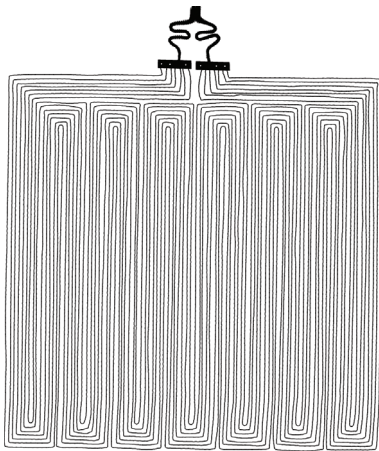
Competitor "A" Heat Blanket
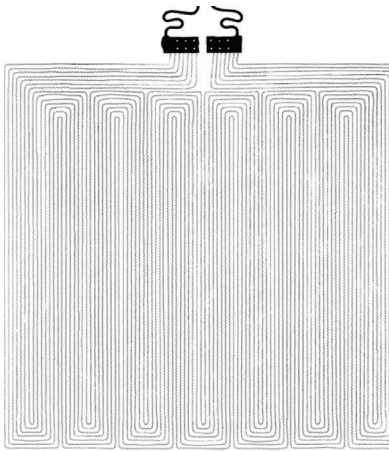
Heatcon Composite Systems®' Heat Blanket

A Quality Difference:

Non-uniform heating by a heat blanket is generally caused by one of two factors, poor quality construction or improper handling. Heatcon Composite Systems has the solution to both issues.

The most effective means to evenly distribute heat is by placing the heater wires closer together. Poorly designed heat blankets have circuit spacing of often 0.5in (12.7mm) or more, whereas our blankets have a circuit spacing of 0.15in (3.81mm) on average.

We have also addressed the improper handling factor by incorporating a strain relief in the power-lead entry tab, using special eyelet crimping techniques and utilizing double buss bars which minimize open circuits at the buss bar connection. Computer-generated circuitry optimizes circuit design to create even heat distribution. Our standard leads are Teflon® insulated for easy removal, from the tacky tape, after a repair.

Heatcon Composite Systems®' Standard Quality Features

Teflon® Insulted Leads: for easier removal from the tacky tape

External Lead Entry Tabs: to maximize heating area

Double Bus Bars: to increase strength at circuit connection

Strain Relief: to minimize wire breakage

Textured or Smooth Silicone Rubber

Circuit Spacing: close and precision controlled circuit spacing for more even heat distribution

Useful Formulas

Heat Blanket Amperage

$$Amperage = \frac{Watts\ rated}{Volts\ rated}$$

Heat Output Due to Voltage Change

$$W_{NEW} = W_{RATED} \cdot \frac{(V_{NEW})^2}{V_{RATED}}$$

$$3\ Phase\ Amperes = \frac{Total\ Watts}{Volts \times 1.732}$$

Ohm's Law

E (VOLTS), I (AMPS), R (OHMS), W (WATTS)

$\frac{W}{I}$, $\sqrt{WR}$, $\frac{E}{R}$, $\sqrt{\frac{W}{R}}$, IR, $\frac{W}{E}$, $\frac{E}{I}$, EI, $\frac{W}{I^2}$, $\frac{E^2}{W}$, $\frac{E^2}{R}$, I^2R
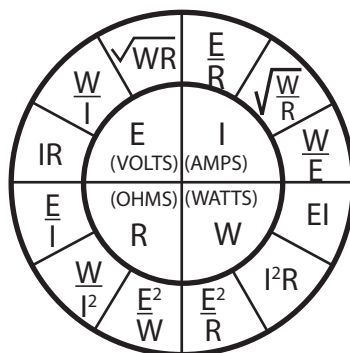
Thermal Uniformity Testing
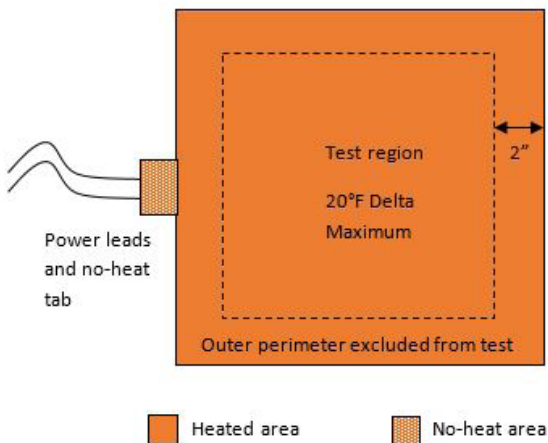
Thermally Verified Heat Blankets

Heatcon now provides thermally verified heat blankets as a standard offering with our hot bonder kits. These heat blankets provide an extra level of quality assurance using state of the art thermal measurement equipment to verify temperature uniformity. A test report is supplied with each heat blanket to ensure traceability. Test criteria meet the requirements for verification of heat blankets defined in aerospace standards including SAE ARP5144A, and Boeing D6-56273 and will ensure compliance with OEM structural repair manual recommendations.
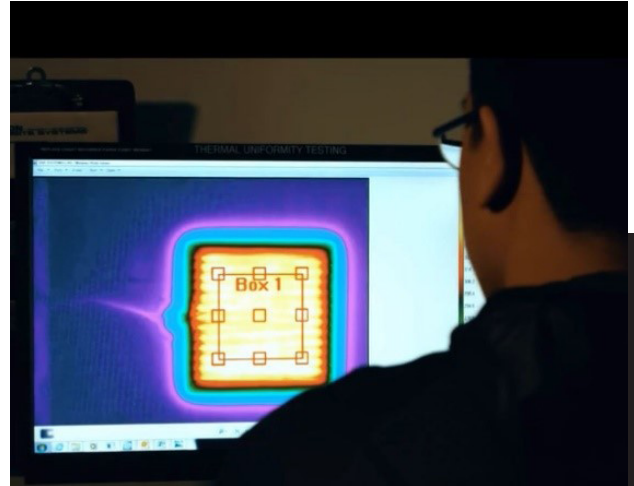
Testing Procedure

To test the blankets, temperature measurements are taken at 350°F (suitable for repairs at or below 350°F) on a 2" grid within a test region excluding the outer 2" periphery of the heat blanket. All temperatures are recorded and the temperature range is calculated to ensure that temperatures do not exceed a 20°F delta. The figure below illustrates the location of the test region in a typical heat blanket.

Test region
20°F Delta Maximum
2"
Power leads and no-heat tab
Outer perimeter excluded from test
Heated area   No-heat area

Test New and Old Blankets

Heatcon can provide thermal verification testing for existing heat blankets, including other brands. We recommend checking all blankets for visible damage and performing a resistance test to verify an acceptable condition before sending to Heatcon.
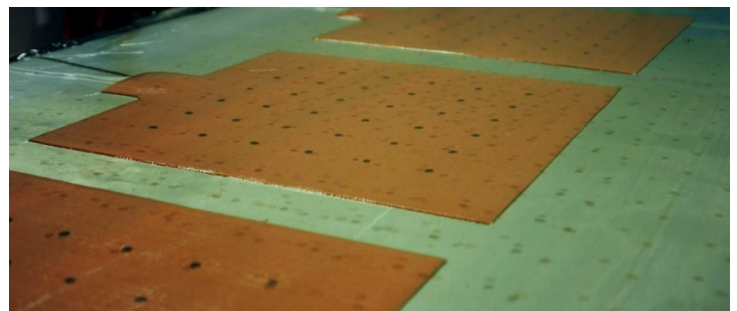
Heat Blankets

Commonly Stocked Heat Blankets

Length

Width

HEATCON SEATTLE

Watts

HC120240E52
1440W   220V   00-00
SN 1085

Serial Number

Volts

To ensure traceability, each heat blanket is identified with:
1) serial number, 2) voltage and 3) watts.
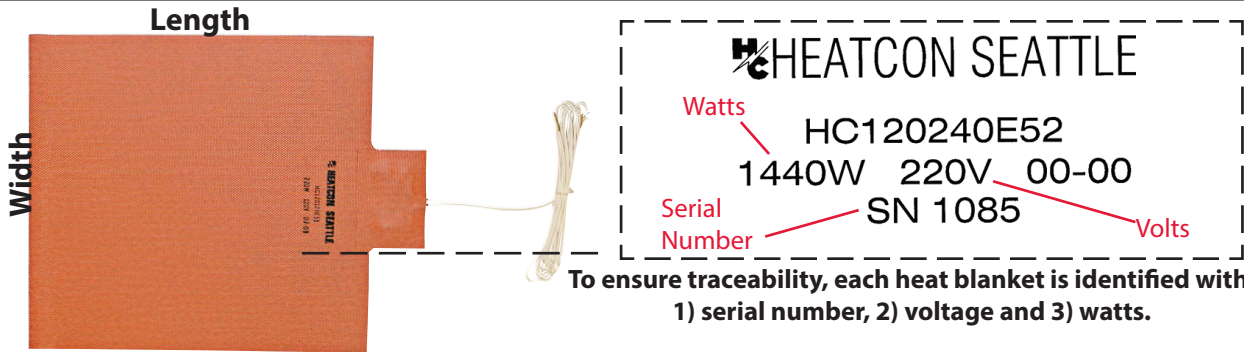
Commonly Stocked 120V / 220V Rectangular Heat Blanket Assortment					
Description	120V Part Number	220V Part Number	Watts	Supervisory	Heat Mapping
4in x 10in (10.6cm x 25.4cm)	HC040100E51	HC040100E52	200W	√	√
6in x 6in (15.2cm x 15.2cm)	HC060060E51	HC060060E52	180W	√	√
6in x 8in (15.2cm x 20.3cm)	HC060080E51	HC060080E52	240W	√	√
6in x 10in (15.2cm x 25.4cm)	HC060100E51	HC060100E52	300W	√	√
6in x 12in (15.2cm x 30.5cm)	HC060120E51	HC060120E52	360W	√	√
6in x 20in (15.2cm x 50.8cm)	HC060200E51	HC060200E52	600W	√	√
6in x 24in (15.2cm x 61.0cm)	HC060240E51	HC060240E52	720W	√	√
6in x 36in (15.2cm x 91.4cm)	HC060360E51	HC060360E52	1080W	√	√
6in x 40in (15.2cm x 101.6cm)	HC060400E51	HC060400E52	1200W	√	√
6in x 72in (15.2cm x 182.9cm)	HC060720E51	HC060720E52	2160W	√	√
8in x 8in (20.3cm x 20.3cm)	HC080080E51	HC080080E52	320W	√	√
9in x 12in (22.8cm x 30.4cm)	HC090120E51	HC090120E52	540W	√	√
10in x 10in (25.4cm x 25.4cm)	HC100100E51	HC100100E52	500W	√	√
12in x 12in (30.5cm x 30.5cm)	HC120120E51	HC120120E52	720W	√	√
12in x 18in (30.5cm x 45.7cm)	HC120180E51	HC120180E52	1080W	√	√
12in x 24in (30.5cm x 61.0cm)	HC120240E51	HC120240E52	1440W	√	√
15in x 15in (38.1cm x 38.1cm)	HC150150E51	HC150150E52	1125W	√	√
15in x 18in (38.1cm x 45.7cm)	HC150180E51	HC150180E52	1350W	√	√
18in x 18in (45.7cm x 45.7cm)	HC180180E51	HC180180E52	1620W	√	√
18in x 24in (45.7cm x 61.0cm)	HC180240E51	HC180240E52	2160W	√	√
24in x 24in (61.0cm x 61.0cm)	HC240240E51	HC240240E52	2880W	√	√
Normally Stocked 120V / 220V Round Heat Blanket Assortment					
6in (15.2cm)	HC060060E51R	HC060060E52R	141W	√	√
8in (20.3cm)	HC080080E51R	HC080080E52R	250W	√	√
10in (25.4cm)	HC100100E51R	HC100100E52R	393W	√	√
12in (30.5cm)	HC120120E51R	HC120120E52R	565W	√	√
15in (38.1cm)	HC150150E51R	HC150150E52R	884W	√	√
18in (45.7cm)	HC180180E51R	HC180180E52R	1272W	√	√

[1]Standard Sizes to be included with Hot Bonder Purchase. Please specify requirement - 120V or 220V

Stretchable and Conformable Heat Blankets

Specifications:

Maximum Width - 39in (99.1cm) Unspliced	
Maximum Length - 138in (350.5cm) Unspliced	
Maximum Temperature - 450°F (232°C)	
Watt Density - 5 W/in² (0.8 W/cm²)	
Standard Material - Unsupported silicone rubber	
Standard Leads - Teflon® insulated 600V/ 400°F (204°C)	
Standard Lead Length - 5ft (1.52m)	
Standard Input Power - 120V or 220/240V (others available)	
External Tabs - increase heating area	
CE Conformity	
Dimensional Tolerance - ± 1%	

Featured Options:

Plugs - for various applications and power sources

CONFORMS TO CONTOURS
FLEXIBLE AND DURABLE
FITS INTO TIGHT RADIUS
UNIQUE CONSTRUCTION

Our stretchable and conformable heat blankets are specifically designed for the repair of complex 3D composite shapes or contoured surfaces. The design employs a grid of wound resistance wire vulcanized between durable unsupported silicone rubber.

Compared to traditional material used for stretchable heat blankets, we are now using Mosites Rubber Company, Inc. material that features improved strength, flexibility, and durability. In combining Heatcon's technology with Mosites material it upgrades the most important property of the stretchable heat blanket which is providing a greater degree of conformability.

The unique construction of our stretchable heat blankets allows you to apply uniform heat exactly where you want it.
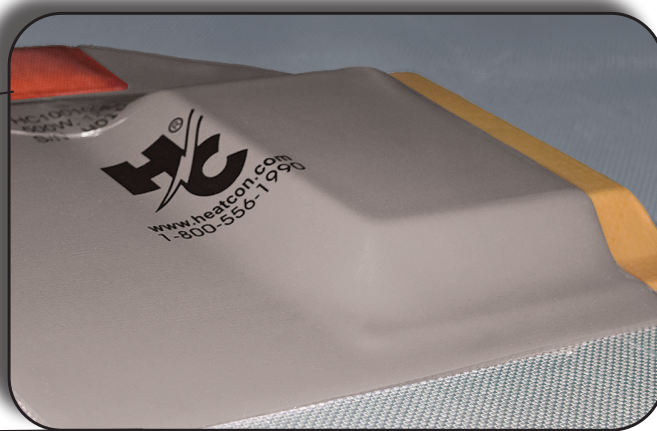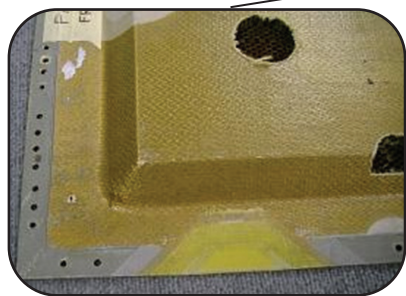
Heat Blankets

Normally Stocked Stretchable Heat Blanket Assortment 120V / 220V				
Description	Part Number 120V	Part Number 220V	Watts	Heat Mapping
6in x 6in (15.2cm x 15.2cm)	HC060060E51E1	HC060060E52E1	180W	√
8in x 8in (20.3cm x 20.3cm)	HC080080E51E1	HC080080E52E1	320W	√
10in x 10in (25.4cm x 25.4cm)	HC100100E51E1	HC100100E52E1	500W	√
12in x 12in (30.5cm x 30.5cm)	HC120120E51E1	HC120120E52E1	720W	√
15in x 15in (38.1cm x 38.1cm)	HC150150E51E1	HC150150E52E1	1125W	√
18in x 18in (45.7cm x 45.7cm)	HC180180E51E1	HC180180E52E1	1620W	√
24in x 24in (60.9cm x 60.9cm)	HC240240E51E1	HC240240E52E1	2880W	√

Radome Heat Blankets

Outer Radome: Standard - 220 Volt - Multi Zone Radome

Aircraft Model	Part Number	Height (inches)	Watt Density	Wattage Zone 1	Wattage Zone 2	Wattage Zone 3
B737	HC737130G42Z2	13in (33.02cm)	4	1936W	2720W	N/A
B747	HC747130G42Z2	13in (33.02cm)	4	2500W	5493W	N/A
B767/777	HC777130G42Z2	13in (33.02cm)	4	2500W	5493W	N/A
B787	HC787120G42Z2	12in (30.48cm)	4	2500W	5306W	N/A
A300/310/330/340	HCA30130G42Z2	13in (33.02cm)	4	1936W	2944W	N/A
A318/319/320/321	HCA32130G42Z2	13in (33.02cm)	4	1936W	5492W	N/A
A350	HCA350130G42Z2	13in (33.02cm)	4	2638W	4748W	N/A
ATR42/72	HC1190	13in (33.02cm)	4	1469W	1633W	1633W
CRJ200	HCRJ2220GX2Z2H	22in (55.88cm)	5 / 4	2446W	2545W	N/A
E170/190	HC190110G52Z2	11in (27.94cm)	5	2785W	3016W	N/A

Note: plug not included

Inner Radome: Standard - 220 Volt - Multi Zone Radome

Aircraft Model	Part Number	Height (inches)	Watt Density	Wattage Zone 1	Wattage Zone 2	Wattage Zone 3
B737	HC0718	20in (50.08cm)	4	1936W	3377W	3377W
B787	HC0693	12in (30.48cm)	4	2500W	4936W	N/A
A318/319/320/321	HC1269	13in (33.02cm)	4	2230W	5630W	N/A

Note: plug not included

Capabilities: Custom Radome heat blankets available for any aircraft
- Repair side is made of one piece of silicone, to eliminate mark-off from seams, creating an exact fit
- Storage fixture available
- Single or Dual Zone
- Uniform heat

Abradable | Fantrack Heat Blankets

Heatcon Composite Systems has the knowledge and expertise to provide solutions for all your Abradable/Fan Track seal replacement challenges. With our state-of-the-art hot bonders and custom designed fan track heat blankets, your seal replacement will be done right the first time, every time. Heatcon Composite Systems has a proven track record for successful repairs on the following engine series: RB211, V2500, CFM56, PW2000.
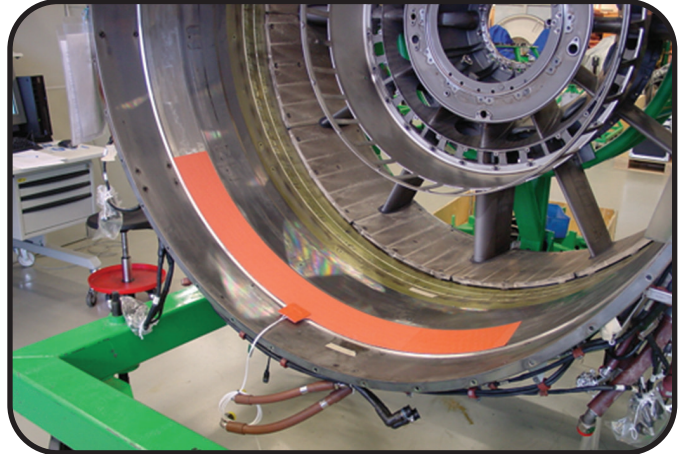
You Know the Problem!

We Know the Solution!

Heat Blankets

HEIGHT

ZONE 1

ZONE 2

2 ZONE CONFIGURATION

HEATCON COMPOSITE SYSTEMS®
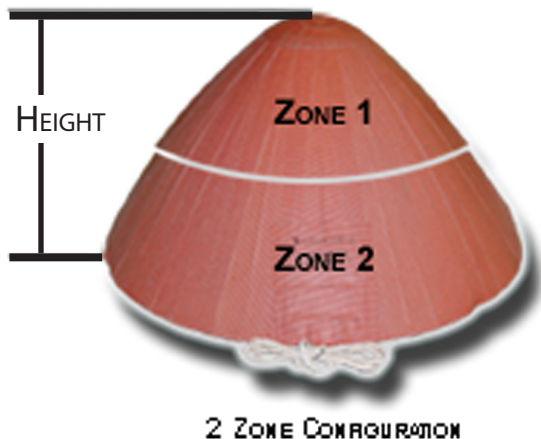
Supervisory Heat Blankets are used when performing a composite repair in a hazardous or flightline environment. These blankets have a very unique construction that includes an additional supervisory temperature sensing circuit to effectively reduce hazardous situations in a vapor volatile environment.

The Supervisory Heat Blankets are designed to be used with our HCS9000/9200FL (Flightline) Series Composite Repair Systems. If the blanket sensor detects a high cure temperature, the controller will disable the power output to the blanket. The circuit will then reset itself when the temperature falls below the critical level. An indicator and alarm on the Heatcon Flightline Repair System will alert the operator to the condition.

Supervisory Heat Blanket Assortment 120V / 220V		
Description	Part Number 120V	Part Number 220V
8in (15.2cm) Diameter	HC080080M51R-X	HC080080M52RX
10in (25.4cm) Diameter	HC100100M51R-X	HC100100M52RX
12in x 12in (30.5cm x 30.5cm)	HC120120M51X	HC120120M52X
8in x 18in (15.2cm x 45.7cm)	HC080180M51X	HC080180M52X
6in x 6in (15.2cm x 15.2cm)	HC060060M51X	HC060060M52X
10in x 10in (25.4cm x 25.4cm)	HC100100M51X	HC100100M52X
15in x 15in (38.1cm x 38.1cm)	HC150150M51X	HC150150M52X

Heat Blankets

![HEATCON COMPOSITE SYSTEMS®]

Heat Blanket Engineered Design Capabilities
Flat Geometric | 3-D: Radome | Leading Edge

**Flat Geometrics [2D]
Various Shapes &
Cut-Out Blankets**

Repair locations and requirements frequently change, bringing new challenges to performing composite repair. Hard to reach areas and complex shapes pose a difficult obstacle to overcome with a standard blanket. Heatcon's team of engineers are experienced in designing heat blankets to support your needs.

Our Design Capabilities Include:

- 2D
- 3D
- Complex Shapes
- Multi-Zone
- Variable Watt Density

Some application examples for contoured heat blankets include: radome, leading edge, trailing edge, propeller, rotor, flap, fan-track and

fan-cowl repairs, thrust reverser repairs .

Radome Heat Blanket

**Leading Edge & Angled
(V-Shaped) Blankets**

Heat Blankets
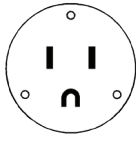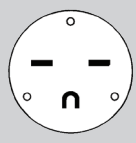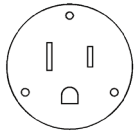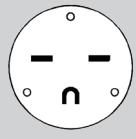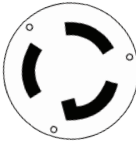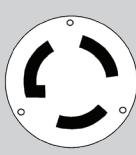
Worksheet	
Simply supply us with the details listed below, and we'll begin designing the blankets to suit your specific needs.	
Width	
Length	
Lead Length	
Input Voltage	
Watt Density - 1 to 5 W/in^2	
Dimensional Drawings	
Note: All tabs are centered unless otherwise specified	
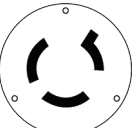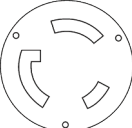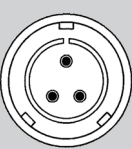
Heat Blanket Plugs and Receptacles

Heat Blanket Accessories

Description	Image		Part Number	Application	Volts	Amps	NEMA	Max. Wattage
Straight Blade Plugs			HCS1201	For standard use	125V	15A	5-15P	1800W
Straight Blade Plugs			HCS1202	For standard use with higher voltage	250V	15A	6-15P	3600W
Straight Blade Receptacles - Female			HCS1213	Used to extend cables	125V	15A	5-15R	1800W
Straight Blade Receptacles - Female			HCS1219	Used to extend cables	250V	15A	6-15R	3600W
Twist Lock Plugs			HCS1204	Used primarily in school applications	125V	15A	L5-15P	1800W
Twist Lock Plugs			HCS1205	Used with large Heat Blankets	125V	30A	L5-30P	3600W

Note: Other Plugs and Receptacles also available.

Heat Blankets

Heat Blanket Plugs and Receptacles

	Heat Blanket Accessories						
Description	**Image**	**Part Number**	**Application**	**Volts**	**Amps**	**NEMA**	**Max. Wattage**
Twist Lock Plugs		HCS1207	For standard high voltage use	250V	15A	L6-15P	3600W
Twist Lock Plugs		HCS1209	Used when high amps are required	250V	30A	L6-30P	7200W
Twist Lock Receptacles - Female		HCS1208	Used to extend cables	250V	30A	L6-30R	
3-Pin Connector - B-Model Repair Part		HCS1223 CA3108E-19PB	Connects directly to Composite Repair Units or used as a HCS9000B /9200B-Model output cable repair part.	120/ 240V	30A		
2-Pin Connector Supervisory		HCS1009-060	Connects directly to Composite Repair Units *(supervisory blankets only)*	120/ 240V	13A		
Cable Clamp		HCS1009-061	Connects directly to Composite Repair Units *(supervisory blankets only)*	N/A	N/A		

Note: Other Plugs and Receptacles also available.

Heat Blankets

Heat Blanket Tester
HCS2047

This easy-to-use Heat Blanket Tester will identify possible damage to the blanket circuit with a "Pass/Fail" feature.

Following the simple on-screen menus, the repair technician connects the blanket to the tester, enters the voltage and wattage and views the results. The tester can identify open, shorted and intermittent circuits or power leads.

The Heat Blanket Tester can be used to comply with test standards such as ARP5144 and D6-56273.

IT'S AS SIMPLE AS "PASS" OR "FAIL"

NSN: 4920-01-551-7928

| Specifications:	
Weight	2.5lbs (1.1kg)
Dimensions	8.5in x 6in x 3in (21.59cm x 15.24cm x 7.62cm)
Power	100-240VAC (47-63Hz), 0.1A
Accuracy	+ / - 0.5 Ohms
Construction	Aircraft Quality Aluminum Enclosure, Sealed Overlay Keypad, Back-lit LCD Graphic Display
Includes	Carrying Case, Test Leads

Heat Blankets

Consumable Materials
## Introduction to Consumables

The quantity you need, when you need it, where you need it.

A wide variety of materials go into every composite repair. Heatcon stocks a wide range of prepregs, fabrics, adhesives, and bagging materials. Heatcon specializes in small-quantity repackaging and kitting materials for immediate shipment around the globe.
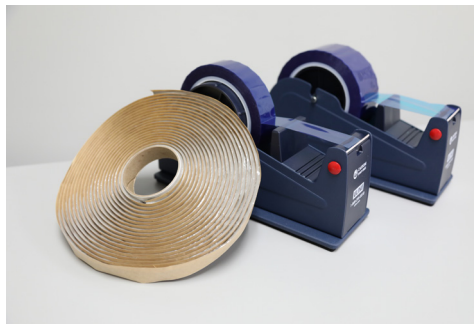
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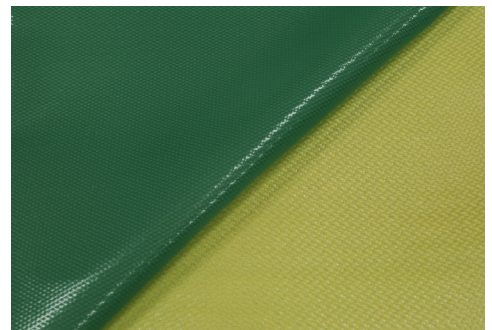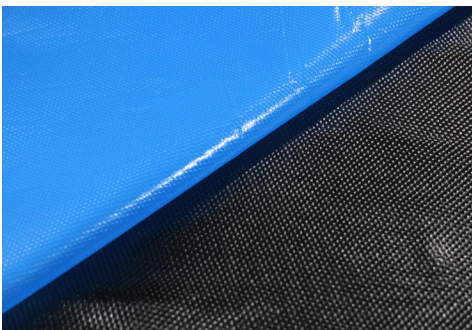
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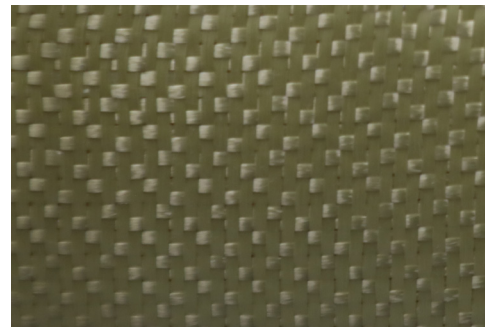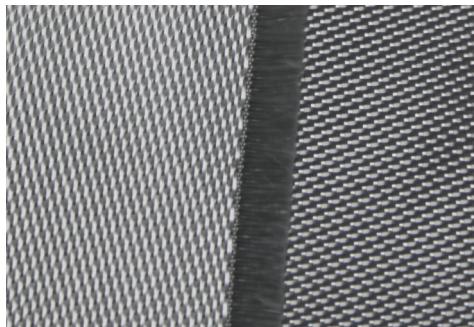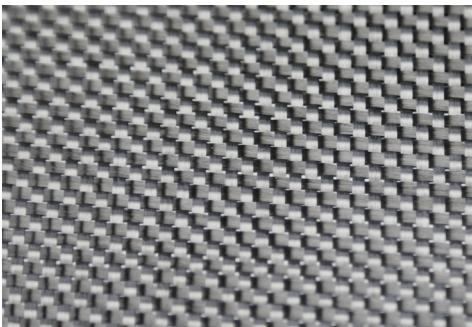
Bagging Materials

Materials

Materials

Small Quantities

Prepreg repair materials typically have a nine to twenty-four month shelf-life. For many facilities, a full roll of materials would not be used in this time-frame and the excess would have to be thrown away. Buying from the manufacturer can take months of waiting for delivery with large minimum order requirements. For these reasons, we provide material in large (full roll) or small (by the yard) quantities. All of our materials are inspected prior to shipping and packed in dry ice with the appropriate quality assurance paperwork, (Certificate of Conformance, Material Safety Data Sheets and IATA forms, which support dangerous goods).
We offer the following quantities for most repair materials:
- 5 yard cut
- 10 yard cut
- Full Roll (sizes depend on the type of material)

Aircraft on Ground (A.O.G.)

As an added service to our customers, we offer priority service for composite repair materials. Contact us if you have a grounded aircraft, or a work stoppage due to material requirements. We can have a shipment of the material you require, in the quantity you need, on the way to your facility the same day we receive your purchase order. Priority orders must be received by 11:00am (PST) in order to allow sufficient processing time for same-day-shipment. International Priority priority shipments are subject to space availability on the next flight out. The use of a customs broker is recommended to avoid unnecessary delays. An additional Priority fee may also apply.

Packaging

Heatcon takes care to package all of our materials with specially designed, insulated boxes. Dry ice is included to help keep your material at sub zero temperatures throughout transit. Heatcon utilizes temperature recorders in every box, providing loggable temperature data. This is a great tool for ensuring all OEM and FAA requirements are met.

Prepreg Materials
Hexcel M20

HexPly® M20 is an epoxy structural prepreg, designed to provide high temperature performance combined with a low energy cure cycle. Due to its processing flexibility (vacuum bag or autoclave) it is ideally suitable for composite repair. HexPly® M20 cures at 130°C (265°F) to form a tough, high temperature resistant fiber reinforced composite. HexPly® M20 has been chosen as a standardised repair material by the Commercial Aircraft Composite RepairCommittee (CACRC) which sets global aerospace standards for composite repair. HexPly® M20 is available as woven carbon for structural repairs. The pre-impregnated woven glass version is used for non-structural galvanic corrosion protection.

Hexcel M20 - Carbon Fiber	
	Specification
SAE Specification	AMS 3970 / Rev A
Boeing Material Specification	BMS 8-340 / Rev A / Ty 1 / CL 1
Airbus Material Specification	IPS 08-03-001-01 / Rev 4
Rohr Material Specification	RMS 167 / Rev A / Ty 1 / Cl 1 / Sty 1

Part Number	Manufacturer (Mfr Part #)[2]	Type	Class	Grade/ Style/Form	Nominal Cured Thickness	Roll Size	Cure Temp
HCS2402-M20	HEXCEL (M20/G904)	I	1	Style 3K-70-PW	.0037in (0.094mm)	42in x 50yds (106.68cm x 45.72m)	250°F (121°C)

Hexcel M20 - Fiberglass	
	Specification
Boeing Material Specification	BMS 8-340 / Rev A / Ty II / CL 2
SAE Specification	AMS 3970 / Rev A
Rohr Material Specification	RMS 167 / Rev A / Ty 2 / Cl 2 / Sty 2
Airbus Material Specification	IPS 06-02-004-01 / Rev 2

Part Number	Manufacturer (Mfr Part #)[2]	Type	Class	Grade/ Style/Form	Nominal Cured Thickness	Roll Size	Cure Temp
HCS2401-M20	HEXCEL (M20/120)	II	2	Style 120	.0083in (0.211mm)	50in x 65yds (127cm x 59.44m)	250°F (121°C)

Materials

Prepreg Materials
Carbon Fiber Prepregs

Part Number	Manufacturer (Mfr Part #)[2]	Specification	Type	Class	Grade/ Style/Form	Nominal Cured Thickness	Roll Size[1]	Cure Temp
HCS2402-015	HEXCEL (F155-76)	BMS8-168	II & III	2	Style 3K-70-PW	.0086in (0.2184mm)	42in x 75yds (106.68cm x 68.58m)	250°F (121°C)
HCS2402-025	HEXCEL (F263-8)	BMS8-212	IV	2	Style 3K-70-PW	.0083in (0.2108mm)	42in x 75yds (106.68cm x 68.58m)	350°F (177°C)
HCS2402-035	HEXCEL (F263-7)	BMS8-212	III	2	Style 3K-135-8H	.0141in (0.3581mm)	42in x 75yds (106.68cm x 68.58m)	350°F (177°C)
HCS2402-040	CYTEC/Solvay (CYCOM 970/PWC T300 3K UT)	BMS8-256	IV	2	Style 3K-70-PW	.0085in (0.2159mm)	42in x 80yds (106.68cm x 73.15m)	350°F (177°C)
HCS2402-050	CYTEC/Solvay (CYCOM 934/PWC T300 UT)	BMS8-297	IV	2	Style 3K-70-PW	.0083in (0.2108mm)	60in x 65yds (152.4cm x 59.43m)	350°F (177°C)
HCS2402-060	CYTEC/Solvay (CYCOM 934/PX T300 ST)	BMS8-297-2	IV	2	Style 3K-70-PX	.0083in (0.2108mm)	60in x 65yds (152.4cm x 59.43m)	350°F (177°C)
HCS2402-070	CYTEC/Solvay (CYCOM 934/8HS T300 ST CCF)	BMS8-297	III	2	Style 3K-135-8H	.0150in (0.3810mm)	60in x 50yds (152.4cm x 45.72m)	350 F (177°C)
HCS2402-M20	HEXCEL (M20/G904)	BMS8-340 & AMS-3970	I	1	Style 3K-70-PW	.0037in (0.094mm)	42in x 50yds (106.68cm x 45.72m)	250°F (121°C)
HCS2402-086	Toray (F6273-30K-965)	BMS8-276	40	2	Style 12K-70-PW/ Form 4	.0084in (0.213mm)	38in x 61yds (96.52cm x 55.77m)	350 F (177°C)
HCS2402-090	Toray (FM6673G-37KT-229)	BMS8-276	40	6	Style 6K-70-PW/ Form 1	.0086in (0.2184mm)	9in x 664yds (22.86cm x 607.16m)	350 F (177°C)
HCS2402-091	Toray (FM6673G-37KT-305)	BMS8-276	40	6	Style 6K-70-PW/ Form 1	.0086in (0.2184mm)	12in x 320yds (30.48cm x 292.61m)	350 F (177°C)
HCS2402-092	Toray (FM6673G-37K-965)	BMS8-276	40	2	Style 6K-70-PW/ Form 1	.0086in (0.2184mm)	38in x 83yds (96.52cm x 75.89m)	350 F (177°C)
HCS2402-093	Toray (FM6673G-37KT-965)	BMS8-276	40	2A	Style 6K-70-PW/ Form 1	.0086in (0.2184mm)	38in x 83yds (96.52cm x 75.89m)	350 F (177°C)
HCS2402-094	Toray (FL6676G-37E-965)	BMS8-276	40	5	Style 6K-70-PW-PB4, IWWF/Form 1	.0089in (0.226mm)	38in x 132yds (96.52cm x 120.70m)	350 F (177°C)
HCS2402-095	Toray (FL9673G-37KT-229)	BMS8-276	40	6	Style 6K-70-PX/ Form 1	.0086in (0.2184mm)	9in x 266yds (22.86cm x 243.23m)	350 F (177°C)
HCS2402-096	Toray (FL9673G-37KT-305)	BMS8-276	40	6	Style 6K-70-PX/ Form 1	.0086in (0.2184mm)	12in x 270yds (30.48cm x 246.88m)	350 F (177°C)
HCS2402-097	Toray (FL9673G-37KT-953)	BMS8-276	40	2A	Style 6K-70-PX/ Form 1	.0086in (0.2184mm)	38in x 159yds (96.52cm x 145.39m)	350 F (177°C)
HCS2402-080	Toray (P2352W-19-152)	BMS8-276	35	11	GR 190/ Form 3	.0075in (0.190mm)	6in x 462yds (15.24cm x 422.45m)	350 F (177°C)
HCS2402-081	Toray (P2352W-19-229)	BMS8-276	35	11	GR 190/ Form 3	.0075in (0.190mm)	9in x 277yds (22.86cm x 253.29m)	350 F (177°C)
HCS2402-082	Toray (P2352W-19-305)	BMS8-276	35	11	GR 190/ Form 3	.0075in (0.190mm)	12in x 280yds (30.48cm x 256.03m)	350 F (177°C)
HCS2402-083	Toray (P2352W-19-610)	BMS8-276	35	10	GR 190/ Form 3	.0075in (0.190mm)	24in x 284yds (60.96cm x 259.69m)	350 F (177°C)
HCS2402-084	Toray (P2352W-19-1540)	BMS8-276	35	10	GR 190/ Form 3	.0075in (0.190mm)	60in x 120yds (152.4cm x 109.73m)	350 F (177°C)

NOTE: All quoted material subject to availability. Please call for pricing and delivery. Other specifications available upon request.

[1] Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.
[2] Dry Ice and Trip Recorders required per certification.

Prepreg Materials
Fiberglass | Kevlar | UAV/AAM

Fiberglass

Part Number	Manufacturer (Mfr Part #)[2]	Specification	Type	Class	Grade/ Style/Form	Nominal Cured Thickness	Roll Size[1]	Cure Temp
HCS2401-015	HEXCEL (F155-5)	BMS8-79	N/A	III	Style 120	.0047in (0.12mm)	38in x 100yds (96.52cm x 91.44m)	250°F (121°C)
HCS2401-025	HEXCEL (F155-5)	BMS8-79	N/A	III	Style 1581	.0095in (0.2413mm)	38in x 65yds (96.52cm x 59.44m)	250°F (121°C)
HCS2401-035	HEXCEL (F155-5)	BMS8-79	N/A	III	Style 7781	.0095in (0.2413mm)	38in x 65yds (96.52cm x 59.44m)	250°F (121°C)
HCS2401-045	HEXCEL (F161-108)	BMS8-139	N/A	1	Style 120	.0045in (0.1143mm)	38in x 100yds (96.52cm x 91.44m)	350°F (177°C)
HCS2401-055	HEXCEL (F161-108)	BMS8-139	N/A	1	Style 1581	.0095in (0.2413mm)	38in x 60yds (96.52cm x 54.86m)	350°F (177°C)
HCS2401-060	CYTEC/Solvay (MXB7668/7781)	BMS8-139	N/A	1 & 2	Style 7781	.0095in (0.2413mm)	38in x 60yds (96.52cm x 54.86m)	350°F (177°C)
HCS2401-075	HEXCEL (F161-138)	BMS8-154	III	1	Style 6581	.0084in (0.213mm)	38in x 60yds (96.52cm x 54.86m)	350°F (177°C)
HCS2401-M20	HEXCEL (M20/120)	BMS8-340 & AMS-3970	II	2	Style 120	.0083in (0.211mm)	50in x 65yds (127cm x 59.44m)	250°F (121°C)
HCS2401-076	Toray (FGF108-29M-990)	BMS8-331	42	1	Style 108/ Form 1	.0018in (0.045mm)	39in x 214yds (99.06cm x 195.68m)	350°F (177°C)

UAV / AAM

Part Number	Specification	Description
HCS2402-100	NMS128/2	IM7-G/8552 Prepreg Tape - 190 gsm, 35% RC, 48"
HCS2402-101	HS-AD-971A	AS4A/M77HF Prepreg Tape - 150 gsm, 38% RC, 24"
HCS2402-102	NMS128/3	AS4/8552S PW Prepreg Fabric - 193 gsm, 38% RC, 50"
HCS2402-103	HS-AD-971A	AS4C/M77HF 2x2T Prepreg Fabric - 193 gsm, 38% RC, 50"

Kevlar™

Part Number*	Manufacturer (Mfr Part #)[2]	Specification	Grade/ Style/Form	Nominal Cured Thickness	Roll Size[1]	Cure Temp
HCS2403-015	HEXCEL (F155-71)	BMS8-219	Style 285	.010in (0.254mm)	38in x 65yds (96.52cm x 59.44m)	250°F (121°C)

NOTE: All quoted material subject to availability.
Please call for pricing and delivery.
Other specifications available upon request.

[1] Roll yardages vary. Five yard minimum order.
Confirmation of approximate yardage supplied at time of order.
[2] Dry Ice and Trip Recorders required per certification.

Materials

Adhesive Film

Materials

Part Number	Manufacturer (Mfr Part #)[2]	Specification	Type	Class	Grade/ Style/Form	Material Weight	Roll Size[1]	Cure Temp
HCS2404-010	3M (AF163-2K)	BMS5-101	2	N/A	Grade 10	.060lb/ft² (0.293kg/m²)	36in x 50yds (91.44cm x 45.72m)	250°F (121°C)
		BMS5-129	4	IID	Grade 10			
HCS2404-030	3M (AF-126-2)	BMS5-129	2	IIA	Grade 5	.030lb/ft² (0.146kg/m²)	36in x 36yds (91.44cm x 32.92m)	250°F (121°C)
HCS2404-040	CYTEC/Solvay (FM-123-5)	BMS5-129	2	2C	Grade 10	.060lb/ft² (0.293kg/m²)	36in x 55yds (91.44cm x 50.29m)	250°F (121°C)
HCS2404-050	CYTEC/Solvay (1515-4M)	BMS5-154	2 & 3	1 & 2	Grade 5	.050lb/ft² (0.244kg/m²)	36in x 55yds (91.44cm x 50.29m)	350°F (177°C)
HCS2404-060	CYTEC/Solvay (FM355)	BMS8-145	1	N/A	N/A	.075lb/ft² (0.366kg/m²)	48in x 50yds (121.92cm x 50.29m)	350°F (177°C)
HCS2404-100	3M (AF131-2)	BMS8-145	1	N/A	N/A	.075lb/ft² (0.366kg/m²)	40in x 36yds (101.6cm x 32.9m)	350°F (177°C)
HCS2404-190	3M (AF163-2OST)	BMS5-101	2	N/A	Grade 5	.030lb/ft² (5.5mm)	36in x 50yds (91.44cm x 50.29m)	250°F (121°C)
HCS2404-070	3M (AF163-2K)	BMS5-101	2	N/A	Grade 15	.085lb/ft² (0.415kg/m²)	36in x 50yds (91.44cm x 45.72m)	250°F (121°C)
HCS2404-186	3M (AF163-2OST)	BMS5-101	2	N/A	Grade 10	.060lb/ft² (0.293kg/m²)	36in x 50yds (91.44cm x 45.72m)	250°F (121°C)
		BMS5-129	4	2D	Grade 10	.060lb/ft² (0.293kg/m²)		250°F (121°C)
HCS2404-207	3M (AF 30)	BMS5-42	2	N/A	Grade A	.050lb/ft² (0.244kg/m²)	20in x 72yds (50.8cm x 65.83m)	250/350°F (121/177°C)
HCS2404-208	3M (AF191K)	N/A	N/A	N/A	N/A	.080lb/ft² (0.391kg/m²)	36in x 50yds (91.44cm x 45.72m)	350°F (177°C)
HCS2404-218	3M (AF 3109-2U)	N/A	N/A	N/A	N/A	.035lb/ft² (0.171kg/m²)	48in x 25yds (121.92cm x 22.86m)	250/350°F (121/177°C)
HCS2404-219	3M (AF 3109-2K)	N/A	N/A	N/A	N/A	.085lb/ft² (0.415kg/m²)	48in x 25yds (121.92cm x 22.86m)	250/350°F (121/177°C)
HCS2404-087	3M (AF 163-2K)	N/A	N/A	N/A	N/A	.045lb/ft² (0.219kg/m²)	36in x 50yds (91.44cm x 45.72m)	250°F (121°C)

NOTE: All quoted material subject to availability.
Please call for pricing and delivery.
Other specifications available upon request.

[1] Roll yardages vary. Five yard minimum order.
Confirmation of approximate yardage supplied at time of order.
[2] Dry Ice and Trip Recorders required per certification.

Epoxy Adhesives | Foam Adhesives

Epoxy Adhesive

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/ Style/Form/ Rev	Packages Includes	Unit Size	Storage Temp
HCS2407-031	3M (EC 3587 B-1)	N/A	N/A	N/A	N/A	Part A & B	1 Quart (946mL) 2 PART KIT	60-80°F (16-27°C)
HCS2407-032	3M (EC 3587 B-1/4)	N/A	N/A	N/A	N/A	Part A & B	1 Quart (946mL) 2 PART KIT	60-80°F (16-27°C)
HCS2407-033	3M (EC 2216)	BMS5-92	1	4	N/A	Part A & B	1 Quart (946mL) 2 PART KIT	60-80°F (16-27°C)
HCS2407-035	3M (EC 3524 AN)	BMS5-28	9	N/A	N/A	Part A & B	1/2 Gallon (1.89L) 2 PART KIT	80°F (27°C)
HCS2407-038	3M (EC 3501)	N/A	N/A	N/A	N/A	Part A & B	1 Pint (470mL) 2 PART KIT	60-80°F (16-27°C)
HCS2407-045	3M (EC 3501)	N/A	N/A	N/A	N/A	Part A & B	2 fl oz Tube (59mL) 2 PART KIT	60-80°F (16-27°C)
HCS2407-039	3M (EC 3333)	BMS5-92 J	5	1	N/A	Part A & B	1 Quart (946mL) 2 PART KIT	80°F (27°C)
HCS2407-048	3M (EC 1300L)	BMS5-7	1	N/A	Rev G	1 Container	1 Quart (946mL)	60-80°F (16-27°C)
HCS2407-049	3M (EC 1660)	BMS5-42 V	1	2	N/A	1 Container	1 Gallon (3.785L)	40°F (4.4°C)

Foam Adhesive

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/ Style/Form/Rev	Nominal Cured Thickness/Weight	Unit Size	Cure Temp
HCS2405-010	CYTEC/Solvay (FM490A)	BMS5-90	3	1	Grade 50	.05in (1.143mm) 0.395lb/ft² (6.33kg/m²)	Roll Size 1in x 25ft (2.54cm x 7.62m)	250/350°F (121/177°C)
HCS2405-040	HENKEL (EF562)	BMS5-90	III	1	Grade 50/Rev W	.05in (1.143mm)	Sheet Size 1ft x 2ft (30.48cm x 60.96cm)	250/350°F (121/177°C)
		IPS 10-02-001-05	N/A	N/A	Grade B	05in (1.143mm)	Sheet Size 1ft x 2ft (30.48cm x 60.96cm)	250/350°F (121/177°C)

NOTE: All quoted material subject to availability.
Please call for pricing and delivery.
Other specifications available upon request.

Materials

Materials

Fiberglass Dry Fabric

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/ Style/Form	Thickness	Roll Width¹
HCS2410-010	HEXCEL (120-38)	BMS9-3	D	7	Style 120	3.5mils (.09mm)	38in (96.52cm)
HCS2410-020	HEXCEL (1581-38)	BMS9-3	H-2	7	Style 1581	8.5mils (0.22mm)	38in (96.52cm)
HCS2410-030	HEXCEL (7781-38)	BMS9-3	H-3	7	Style 7781	8.6mils (0.22mm)	38in (96.52cm)

Carbon Dry Fabric

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/ Style/Form	Thickness	Roll Width¹
HCS2409-010	Textile	BMS9-8	I	2	Grade 3 / Style 3K-135-8H	.0135in (0.3429mm)	42in (106.68cm)
HCS2409-020	HEXCEL (282-42)	BMS9-8	I	2	Grade 3 / Style 3K-70-PW	.007in (0.1778mm)	42in (106.68cm)
HCS2409-022	HEXCEL (282-50)	BMS9-8	I	2	Grade 3 / Style 3K-70-PW	.007in (0.1778mm)	50in (127cm)
HCS2409-031	HEXCEL (AH370-5H)	N/A	N/A	N/A	N/A	.015in (0.381mm)	39in (99.06cm)

Kevlar™ Dry Fabric

Part Number	Manufacturer (Mfr Part #)	Specification	Style/Weave	Thickness Dry Nominal	Roll Width¹
HCS2411-010	JPS	Kevlar™49	Style 350/Plain	3.0mils (.08mm)	38in (96.52cm)
HCS2411-035	JPS	Kevlar™49	Style 353/4H Satin	9.4mils (0.24mm)	50in (127cm)
HCS2411-040	JPS	Kevlar™49	Style 352/Plain	10mils (0.254mm)	38in (96.52cm)

¹Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.
Note: All quoted material subject to availability.
Please call for pricing and delivery. Other specifications available upon request.

HEATCON COMPOSITE SYSTEMS®

Resin Kits | Resins

Used on wet lay-up and repair. These are two part epoxy paste adhesive/resin systems for potting, bonding, fairing and repair.

Typical Coverage for 50g (40/60 resin to fiber ratio)
24in x 24in (60.96cm x 60.96cm)
for style 7781 Fiberglass Cloth
6 - 8 repair plies 8in (20.32cm) diameter

• Practical
• No Waste
• Mix Only What is Required
• No Weighing

SAVE TIME AND MONEY!

Resin Kits

Part Number	Specification Number (Mfr Part #)	Storage Temp	Mix Ratio	Size	Cure Time	Cure Temp
HCS2407-091	BMS8-301 (EY 3804)	Below 40°F (4°C)	100:66	50g	3 Hours	150°F (66°C)
HCS2407-101	BMS8-301 (EA 9390)	40°F (4°C)	100:56	50g	3-4 Hours	200°F (93°C)
HCS2407-131	(EA 934NA)	40°F (4°C)	100:33	50g	1 Hour	200°F (93°C)
					5-7 Days	77°F (25°C)
HCS2407-141	(EA 9394)	77°F (25°C)	100:17	50g	1 Hour	150°F (66°C)
					3-5 Days	77°F (25°C)
HCS2407-151	(EA 956)	40°F (4°C)	100:58	50g	1 Hour	200°F (93°C)
					5-7 Days	77°F (25°C)
HCS2407-161	(EA 9309.3NA)	35°F (1°C)	100:22	50g	1 Hour	180°F (82°C)
					3-5 Days	77°F (25°C)

Please contact us for current price and lead time. Minimum order may apply.
EPOCAST® is a registered trademark of Vantico A&T US Inc.

Resins

Part Number	Specification (Mfr Part #)	Type	Class	Unit Size	Cure Temp
HCS2407-040	BMS8-201 (EPOCAST 50-A1/946)	4	N/A	Quart Kit (0.9463L)	150°F - 100°F (66°C - 93°C) After RT Gel
HCS2407-060	BMS8-201 (EPOCAST 50-A1/9816)	3	N/A	Quart Kit (0.9463L)	150°F - 200°F (66°C - 93°C) After RT Gel
HCS2407-090	BMS8-301 (EY 3804 A/B)	N/A	2	Quart Kit (0.9463L)	150°F (66°C)
HCS2407-100	BMS8-301 (EA9390)	N/A	1	Quart Kit (0.9463L)	200°F - 300°F (93°C - 149°C)

Materials

HEATCON COMPOSITE SYSTEMS®

Materials

Surface Pre-Treatment

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/Rev Style/Form	Unit Size	Storage Temp
HCS2407-320	3M (AC 130-2)	BMS10-128	1	A	Grade A	50ml 2 PART KIT	40-100°F (4-38°C)
		BMS 5-162	N/A	N/A	Form 2S		
HCS2407-321	3M (AC 130-2)	BMS10-128	1	A	Grade A	100ml 2 PART KIT	40-100°F (4-38°C)
		BMS 5-162	N/A	N/A	Form 2S		
HCS2407-322	3M (AC 131 CB)	BMS10-128	1	A	Grade A	50ml 2 PART KIT	Room Temp
		AMS-3175	1	C	Grade I / Rev A		
HCS2407-323	3M (AC 131 CB)	BMS10-128	1	A	Grade A	100ml 2 PART KIT	Room Temp
		AMS-3175	1	C	Grade I / Rev A		
HCS2407-324	3M (AC 770 B-1)	BMS 5-142	2	B-1	Rev G	3.5oz 2 PART KIT	80°F (27°C)

Primers

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Grade/Rev Style/Form	Unit Size	Storage Temp
HCS2406-011	CYTEC/Solvay (BR127)	BMS5-89	1	N/A	Grade A	1 Gallon (3.785L)	0°F (-18°C)
HCS2406-019	3M (EC 3917)	N/A	N/A	N/A	N/A	1 Gallon (3.785L)	40°F (4.4°C)
HCS2406-020	3M (EC 3964)	N/A	N/A	N/A	N/A	1 Gallon (3.785L)	0°F (-18°C)
HCS2406-025	3M (EW 5000)	BMS 5-89	3	N/A	N/A	1 Quart (0.95L)	35-40°F (-15-4.4°C)
HCS2406-035	CYTEC/Solvay (BR6747-1)	BMS 5-89	II	N/A	N/A	1 Pint (470mL)	40-50°F (4.4.-10°C)
		BMS 5-137	I	3	N/A	1 Pint (470mL)	40-50°F (4.4.-10°C)

Fillers & Potting Compound

Part Number	Manufacturer (Mfr Part #)	Specification	Type	Class	Description	Unit Size
HCS2407-010	HUNTSMAN (CG 1305)	BMS5-28	7	1	Potting Compound Pour-able	Gallon Kit (3.785L)
HCS2407-020	HUNTSMAN (EC 89537)	BMS5-28	7	2	Potting Compound Pour-able	Gallon Kit (3.785L)
HCS2407-030	HUNTSMAN (EPOCAST 1511 A/B)	BMS5-28	3	N/A	Non Flow Edge Filler	Quart Kit (0.9463L)
HCS2200	Univar Solutions USA inc.	N/A	N/A	N/A	Hydrophobic Silica	1 Gallon (3.785L)
HCS2202-01	Malayan Adhesives (BJO-0930)	N/A	N/A	N/A	Phenolic Micro Balloons	1 Gallon (3.785L)

Note: Minimum order may apply.

HEATCON COMPOSITE SYSTEMS®

Pre-Assembled Kits
Diagram for Typical Layup

1. Nylon Bagging Film
(HCS2101)

Vacuum Hose/Sniffer Assembly
(HCS2015-05)

2. Breather/Bleeder
(HCS2102)

3. Release Film Non-Perforated
(HCS2108-NP)
OR
Teflon Coated Fiberglass/
Non-Porous
(HCS2103-NP)

Vacuum Gauge
(HCS2027)

Silicone Rubber Heat Blanket
(Contact Sales for P/N)

Caul Plate (optional)

4. Release Film, Perforated
(HCS2108-P)
OR
Teflon Coated Fiberglass/Porous
(HCS2103-P)

8. Fiberglass Bleeder Cloth
(HCS2410-010)

9. Repair Plies

7. Peel Ply
(HCS2112)

Core Splice Adhesive
(HCS2405)

Thermocouples

5. Flash Tape
(HCS2114)
OR
Polyester Discs
(HCS2115)

6. Sealant Tape
(HCS2125)

Materials

This kit provides everything that is required for temporary and permanent repair of composite structures assembled in one convenient kit. Estimated coverage is nine repairs of 10in (25.4cm) in diameter. Other materials available upon request.

Note: Resin not included. Please call for pricing and delivery.

Materials

Bagging Kit - HCS2510-09				
Item Number	**Part Number**	**Description**	**Size**	**Qty**
1	HCS2101-04-60V	Bagging Film, Nylon	30in (Open 60in) x 333 yds Wide (76.2cm (1.52m) x 304.5m)	3yds (27m)
2	HCS2102-10	Breather/Bleeder (10oz)	60in x 36in (152.4cm x 91.44cm)	1yd (0.9m)
3	HCS2108-NP	Release Film, Non-Perforated	48in x .001in (121.9cm x .025mm)	1yd (0.9m)
4	HCS2108-P	Release Film, Perforated	48in x .001in x .045in (121.9cm x .025mm x 0.114cm)	1yd (0.9m)
5	HCS2114	Flash Tape	1in x 72yds x .0025in (2.54cm x 6583.68cm x .228cm)	1 Roll
6	HCS2125	Sealant Tape, Tacky Tape	0.125in x .5in x 25ft (11.43cm x 1.3cm x 762cm)	2 Rolls
7	HCS2112	Peel Ply, Nylon	46in x .005in (116.84cm x .12mm)	1yd (0.9m)
8	HCS2410-010	Fiberglass Bleeder Cloth	38in x .0045in (96.5cm x .11mm)	1yd (0.9m)

Bagging Kit Dimensions: 29in x 10in x 9.5in (73.7 cm x 25.4 cm x 24.1 cm)
Shipping Weight: 7lbs (3.2kg)

Repair Plies and Bagging Kit					
Item Letter	**Part Number[1]**	**Material**	**Description**	**Size**	**Qty**
A	HCS2510-10	BMS9-3	Dry Fiberglass Cloth (Style 7781, MIL-C-9084)	38in x .0089in (96.52cm x .22mm)	1yd (0.9m)
B	HCS2510-11	BMS9-8	Dry Graphite Cloth (Style 3K-70-PW TY1, CL2)	42in x .007in (106.68cm x .17mm)	1yd (0.9m)
C	HCS2510-12	BMS9-8	Dry Graphite Cloth (Style 3K-135-8H TY1, CL2)	42in x .0135in (1.06cm x .34mm)	1yd (0.9m)
D	HCS2510-13	Kevlar™49	Dry Kevlar™ Cloth (STYLE 120)	38in x .0040in (96.52cm x .1mm)	1yd (0.9m)
E	HCS2510-14	Kevlar™49	Dry Kevlar™ Cloth (STYLE 285)	38in x .010in (96.52cm x .25mm)	1yd (0.9m)

[1]Repair Plies listed above include Bagging Kit (Items 1, 2, 3, 4, 5, 6, 7, 8)

Bagging Consumables
Nylon Bagging Film

The HCS2101 Series Nylon Bagging Film is a high-grade nylon film which is heat-stabilized for long-term cures. The films are soft, pliable and ideal for high temperature composites, metal bonding and any function requiring heat and/or pressure. Nylon Bagging Film is the final layer of material that is applied during the repair process to form the vacuum bag.

Nylon Bagging Film Properties

Tensile Strength - 10,000psi -16,000psi	*Fold Endurance -* > 250,000 cycles
Elongation - 375-500%	*Brittleness Temp -* < 75°F
Graves Tear Strength - 500-600gms	*Dimensional Stability (300°F, 10min) -* < 2.0%
Elmerdorf Tear Strength - 20-50gms	*Flammability Self Extinguishing*

Nylon Bagging Film

Part Number	Specification (Mfr Part #)	Type	Grade/Rev Style/Form	Nominal Thickness	Roll Size[1]	Maximum Use Temp.
HCS2101-04-5MIL	N/A	N/A	N/A	5mils (0.127mm)	54in x 167yds (137.2cm x 152.7m) **50 Yard Minimum Buy**	400°F (204°C)
HCS2101-04-30T 30in TUBE	N/A	N/A	N/A	2mils (.0508mm)	30in Tube x 166yds (76.2cm x 151.8m)	400°F (204°C)
HCS2101-04-60V V-FOLD	N/A	N/A	N/A	2mils (.0508mm)	30in (Open 60in) x 333yds (76.2cm (1.52m) x 304.5m)	400°F (204°C)
HCS2101-38	BMS 5-121 (23030)	1	Rev C	3mils (.0762mm)	36in x 3000yds (91.44cm x 2743.2m) **10 Yard Minimum Buy**	400°F (204°C)

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

Materials

Bagging Consumables
Breather/Bleeder Cloth | Release Film

Materials

The HCS2102 Series Breather/Bleeder Cloth is a needle-punch polyester breather system commonly used as a vacuum transfer medium in the vacuum bagging process. It can be used at pressures up to 85psi (5.8 bars). The HCS2102-04 cloth can be used at pressures up to 200psi (13.8 bars). Multi-directional conformability make it a very efficient breather. This cloth does not contain any binders which could seal off air flow. The breather is required for air evacuation while the bleeder system is required to absorb excess resin. Recommended maximum use temperature: 400°F (204°C).

Breather / Bleeder Cloth
Sold in Full Rolls

Part Number	Weight	Size
HCS2102-04	4oz (113.4g)	60in x 100yds (152.4cm x 91.4m)
HCS2102-10	10oz (283.4g)	60in x 50yds (152.4cm x 45.7m)

The **HCS2108-P Release Film** is a perforated, high-quality film made for contoured surfaces. This film is strong and has high elongation. Perforated Release Film is used as a porous release ply that allows volatile out-gassing during processing.

Release Film Properties

Specific Gravity - 2.12-2.17sq ft/lb	Elongation @ Break - 300%	Max Use Temp - 400°F (204.44°C)	Melt Point - 485-540°F
Yield (1 mil film) - 90sq ft/lb	Tensile Modulus - 70000psi	Flammability - Self Extinguishing	
Water Absorption - <0.01%	Initial Tear Strength - 1mil 0.5lb-0.6lb	Tensile Strength @ Break - 3500psi	

Release Film - Perforated

Part Number	Thickness	Roll Size[1]	Resin Loss	Hole Size	Mark Off	Color
HCS2108-P (P3)	1mil (.001in)	48in x 200yds (121.9cm x 182.88m)	3%	0.015in (0.38mm) Diameter on .25in (0.63cm) Centers	None	Red
HCS2108-P4	1mil (.001in)	48in x 200yds (121.9cm x 182.88m)	.04%	0.045in (1.14mm) Diameter on 2.0in (5.08cm) Centers	None	Red
HCS2108-P5	1mil (.001in)	48in x 200yds (121.9cm x 182.88m)	.023%	0.045in (1.14mm) Diameter on 3.5in (8.89cm) Centers	None	Red

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

The **HCS2108-NP Release Film** is a non-perforated, fluoropolymer release film for cures to 500°F (260°C). This film is an economical alternative to high-cost FEP release film. It is ideally used for flat or single contour lay-ups. Non-Perforated Release Film is used as a parting film.

Release Film - Non-Perforated

Part Number	Thickness	Roll Size[1]	Color
HCS2108-NP	1mil (.001in)	48in x 200yds (121.92cm x 182.88m)	Red

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

Bagging Consumables
Teflon® Release Fabric | Release Peel Ply

The **HCS2103-P Release Fabric** is a porous release Teflon® coated fiberglass with the same porosity that will release from all commercial resin systems. Teflon® Coated Fiberglass/Porous Release Fabric is used as a release ply that allows out-gassing of volatiles during processing.

Release Fabric Teflon® - Porous			
Part Number	**Thickness**	**Roll Size**[1]	**Maximum Use Temp.**
HCS2103-P	2mils (.002in), (0.05mm)	38in x 100yds (96.52cm x 91.4m)	550°F (288°C)

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

The **HCS2103-NP Release Fabric** is a non-porous release Teflon® coated fiberglass designed for release and resin restriction. This fabric will release from all commercial resin systems without transfer. Non-Porous Teflon® Coated Fiberglass is commonly used as a parting film.

Release Fabric Teflon® - Non Porous			
Part Number	**Thickness**	**Roll Size**[1]	**Maximum Use Temp.**
HCS2103-NP	3mils (.003in), (0.08mm)	38in x 100yds (96.52cm x 91.4m)	550°F (288°C)

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

The HCS2112 Series Nylon Release Peel Ply is a heatset and scoured smooth weave nylon fabric used as a release fabric directly against bond lines or laminates where a finish for subsequent bonding or painting is needed. This Release Peel Ply is excellent for controlling adhesive squeeze out and works well on all fiber/epoxy laminates.

Nylon Release Peel Ply				
Part Number	**Thickness**	**Weight**	**Roll Size**[1]	**Yarn Type**
HCS2112	6mil (.006in)	2oz/yd² (66.5g/sq.m)	46in x 300yds (121.9cm x 274.3m)	Nylon

[1]Roll yardages vary. Five yard minimum order. Confirmation of approximate yardage supplied at time of order.

Materials

HEATCON COMPOSITE SYSTEMS®

Materials

The HCS2114 Flash Tape is a polyester-backing film with a rubber adhesive. This tape is very tough and ideal for resin or adhesive flash removal.

Flash Tape

Part Number	Case	Thickness	Roll Size	Maximum Use Temp.
HCS2114	36 Rolls	2.5mils (.06mm)	1in x 72yds (2.54cm x 65.8m)	Up to 400°F (204°C)
HCS2114-02	18 Rolls	2.5mils (.06mm)	2in x 72yds (5.08cm x 65.8m)	Up to 400°F (204°C)

The HCS2115 is a high temperature polyester disc that is ideal for thermocouple isolation on composite repairs.

Polyester Discs

Part Number	Size	Quantity per roll	Maximum Use Temp.
HCS2115-01	1in (2.54cm)	500	Up to 450°F (232°C)
HCS2115-02	1.25in (3.17cm)	500	Up to 450°F (232°C)

The HCS2125 Sealant Tape contains aggressive tack to hold vacuum bag to tools. Releases from metal or composite tools, hot cold. Ideal for standard 250°F (121°C) and 400°F (204°C) cures.

Sealant Tape

Part Number	Case	Roll Size	Maximum Use Temp.	Color
HCS2125	32 Rolls	0.125in x 0.5in x 30ft (3.18mm x 12.7mm x 9.14m)	450°F (232°C)	Dark Gray
HCS2125-02	32 Rolls	0.125in x 0.5in x 25ft (3.18mm x 12.7mm x 7.62m)	450°F (232°C)	Light Gray

Aluminum Foil

Part Number	Specification (Mfr Part #)	Type	Grade/ Style/Form	Size[1]	Cure Temp
HCS2408-010	BMS8-289	Ty 0/250/2/1235/002 Ty 0/350/2/1235/002	Grade B/ Form 1	36in x 1078sq ft (91.44cm x 100.15 sq.m)	250°F / 350°F (121°C / 177°C)

[1]Twelve square foot minimum order. Order in three square foot increments.

Honeycomb Core
Aluminum and Non Metallic

Tired of Long Lead Times and Buying in Full Sheets?

Heatcon Composite Systems® offers Metallic and Non-Metallic Honeycomb core by the square foot.
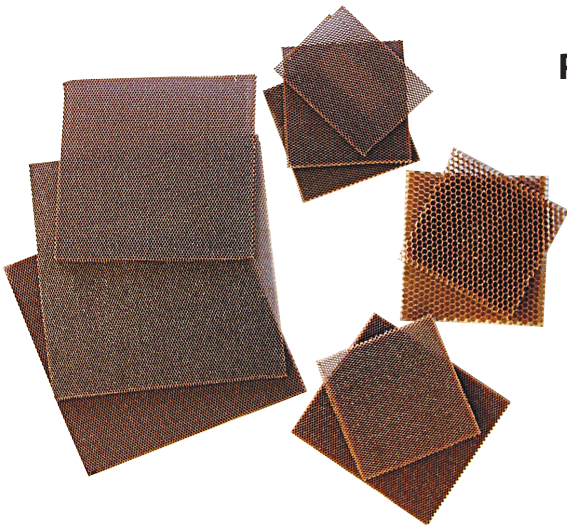
Please call for price and stock availability.
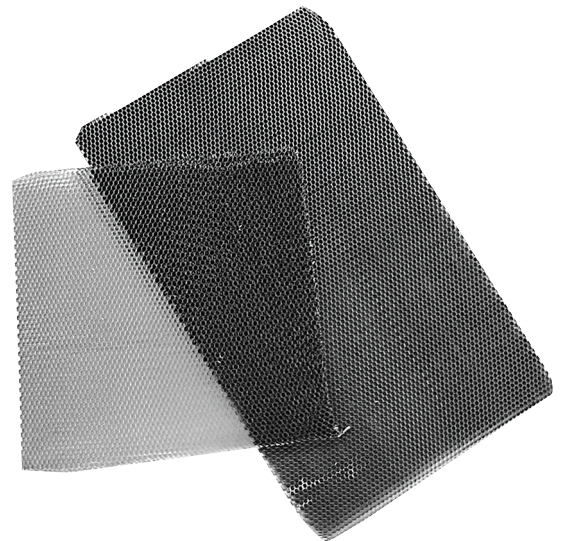
Materials

Non-Metallic Honeycomb Core

Aluminum Honeycomb Core

- HRH10* - Aramid Fiber/ Phenolic Resin
- HRH10* - Flex-Core
- HRP* - Reinforced Plastic Honeycomb

- Certified to the Boeing Material Specifications

  * Other types may also be available

Composite Shops require a wide variety of equipment to support composite repair operations. At Heatcon, we provide a variety of equipment ranging from freezers and dust collection equipment to tool kits and autoclave accessories. Heatcon is your one stop shop for your composite repair needs.

Dust Collection

Thermocouple

Tool Kits and Storage

Shop Equipment

Thermowelder
HCS2030

Our HCS2030 Thermowelder provides a foolproof system for ensuring quality welded junctions for both type "J" and "K" thermocouples. Few things are more exasperating than having a composite part damaged by faulty thermocouple readings during its cure. Twisted wire junctions are susceptible to splitting open under pressure, and silver solder type welds often leave unwanted marks on the finished product. Our Thermowelder provides a low profile micro-bead welded junction which eliminates thermocouple mark-off and breaks.

Thermowelder

Not available in Europe

Specifications:
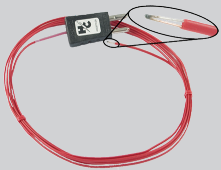
Weight	9.5lbs (4.3kg)
Dimensions	11in x 8in x 7.75in (279.4mm x 203.2mm x 196.8mm)
Input Power	120V or 240V/50-60Hz
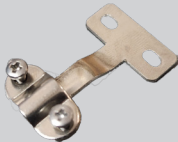
HTW-WP Weld-powder 4oz
(for use in our Thermowelder)

Shop Equipment

Thermocouples and Accessories

Thermocouples

Description	Image	Part Number	Details
Thermocouple		HCS2010-01	T/C, TYPE J KAPTON 10FT, STD. PLUG 24 GA KAPTON WIRE
Thermocouple		HCS2010-25	T/C, TYPE J TEFLON 10FT, MOLDED PLUG, 24 AWG WITH STD SIZE PLUG, STRAIN RELIEF, 1/4" PARALLEL BEADED JUNCTION
Thermocouple		HCS2010-41	THERMOCOUPLE, ACCUFLEX, 12 ft., TYPE-J, FLAT KAPTON, 28 AWG USED FOR MINIMAL MARK-OFF

Thermocouple Accessories

Description	Image	Part Number	Details
Thermocouple Plug - Type "J"		HCS1353-002	The HCS1353-02 is a type "J", 2-pole connector plug that provides dependable connections to the receptacle. This plug provides a continuous temperature rating to 400°F (200°C).
Thermocouple Clamp		HCS1354-001	The HCS1354-001 strain relief attaches directly to the HCS1353-02 plug, relieving wire tension that can cause thermocouple failure. Packaged in bulk when necessary.
Thermocouple Plug - Type "K"		HCS1362	The HCS1362 is a type "K", 2-pole connector plug that provides dependable connections to the receptacle. This plug provides a continuous temperature rating to 400°F (200°C).
Mini-Thermocouple Plug		HCS1355	This is a type "J", 2-pole connector plug that provides dependable connections to the receptacle. This plug provides a continuous temperature rating to 400°F (200°C).

Shop Equipment

Thermocouple Accessories

Thermocouple Accessories			
Description	**Image**	**Part Number**	**Details**
Thermocouple Wire Stripper		HCS2036-01-049	One light squeeze strips wire clean up to 0.88in (22.35mm).
Thermocouple Wire - AutoBond™ FEP		HCS1385	This is a color-coded, type "J", insulated singles, 24ga thermocouple wire, bonded with the AutoBond™ process. This eliminates the need for a conventional jacket. This wire is rated to 545°F (285°C) and is available in rolls of 500ft (152.4m) or 1000ft (304.8m).
Thermocouple Wire - Kapton®		HCS1351	This is a type "J", 24ga thermocouple wire with Kapton® Insulation. It offers precise temperature readings along with exceptional kink resistance. This wire is rated to 600°F (316°C) and is available by the foot (30.48cm) or rolls of 500ft (152.4m).
Thermocouple Wire - Fiberglass		HCS1352	This is a type "J", 24ga thermocouple wire with fiberglass insulation. It is an excellent choice for higher temperature applications such as thermoplastics. This wire has a continuous temperature rating to 900°F (482°C) and is available by the foot (30.48cm) or rolls of 500ft (152.4m).
Thermocouple Wire - Teflon®		HCS1350	This is a type "K", 24ga thermocouple wire with Teflon® insulation. It offers precise temperature readings and calibrated conductors for high system accuracy. This wire is rated to 400°F (204°C) and is available by the foot (30.48cm) or rolls of 500ft (152.4m).
5-Port Thermocouple Block		HCS1358	The HCS1358 is a type "J", 5 port thermocouple block receptacle. This block provides a continuous temperature rating to 400°F (200°C) and 500°F (260°C) intermittent.
Thermocouple Round Single Port Block		HCS1365	The HCS1365 is a type "J", round single thermocouple block that provides a continuous temperature rating to 400°F (200°C).

Shop Equipment

HEATCON COMPOSITE SYSTEMS ®

AccuClave® Thermocouples

AccuClave® Series Thermocouples provides the solution to many of the issues composites manufacturers face every day. The patented pre-made thermocouple assemblies are designed for demanding high temperature aerospace autoclave applications. In use across the industry, AccuClave® Series products deliver a proven ROI in labor savings, ease of installation/replacement, simple TRAC traceability and reduced non-conformances.

AccuClave® Autoclave Thermocouple Assembly

- Rated for temperatures up to 500°F (260°C)
- Ready to use assemblies save setup time, reduce downtime
- Applications: Aerospace composites, autoclaves
- Options: J type thermocouple or K type thermocouple calibration, Class 1 special limits, custom construction.

AccuClave-X® Autoclave Thermocouple Cable Extensions

- Bridge the long runs between thermocouples and instrumentation or jack panels
- Ready to use assemblies save setup time, reduce downtime
- Conforms to the following standards: BAC 5621, ASTM E230, IEC 584, ANSI MC 96.1
- Available in lengths of 10, 20 and 30 feet
- Options: J type thermocouple or K type thermocouple calibration, Class 1 special limits, custom construction

AccuConnect™ Multi-circuit Thermocouple Extension Harnesses

- Reduces autoclave setup time by up to 90%!
- Reusable: Rated 200°C (400°F) @ ±2°F (1.1°C)
- Cable ends: One has 6, 12 or 24 cables terminated with a multi-pin connector; the other free-floating cable end has independent male or female plugs
- BAC 5621 compliance and ease of traceability for NADCAP audits
- Optional TRAC traceability etching audits
- Optional TRAC traceability etching

AccuFlex™ Low Profile, Flat Thermocouple Cable Assemblies

- Rated for temperatures up to 500°F (260°C)
- Used for field repairs of damage composites and tool profiling
- Minimal mark-off – 4× thinner than equivalent 28 gauge round wire
- Quick and easy seal between vacuum bag and instrumentation

FEP Thermocouple Wire
- Rated for continuous use up to 400°F (200°C)
- Also available in PFA, PTFE, Polyimide, & more
- Applications: Composites cures, temperature sensors, cryogenics
- Option: Calibration test reports
- Type J, K, T, E, or N thermocouples available

SkinTempTM Flat Junction Tool Thermocouple
- Fiberglass construction rated for continuous use up to 950°F (510°C)
- Also available in FEP, PFA, & Polyimide
- Used for parallel fit on tools
- Type J, K, T, or E thermocouples available

Bayonet Junction with Twist & Lock Adapter
- Fiberglass construction rated for continuous use up to 950°F (510°C)
- Also available in FEP, PFA, & Polyimide
- Used for constant contact on tools
- Type J, K, T, or E thermocouples available

Composite Material Freezer

These large capacity freezers are specifically engineered to meet storage requirements for prepreg composite material and up to 60in (1.12m) cores. Standard models are configured to include a digital temperature controller, chart recorder and an audible over-temperature alarm system to ensure compliance with storage and handling requirements

Convenient, Safe and Economical Cold Storage!

Standard Features:

- Outer cabinet of welded steel, two-coat enamel finish, zinc coated
- Inner compartment; welded steel, zinc coated, epoxy enamel finish
- Cabinet sealed to minimized moisture accumulation
- Insulation is environmentally safe, high density, non-settling fiberglass or urethane foam
- Rigid compartment support
- Controls are conveniently mounted in instrument panel
- Refrigerants are CFC-free (non-ozone depleting)
- Breaker strips of ABS
- 6 Heavy duty swivel type casters (recessed)

Standard Features:

- Counterbalanced lid, easy opening and safe with magnetic gasket
- Handle, chrome plated, solid die casting, with cylinder key lock
- Sub-lids for added content protection
- Permanently lubricated and hermetically sealed compressor
- Nontoxic, noncombustible refrigerant
- Circular chart recorder
- Digital temperature controller
- Sonalarm temperature and power alarm
- LED lighting

Shop Equipment

Composite Material Freezer

Model	Size	Temp		Dimension to nearest inch/centimeter						Operating Power	Amps
				Outside Dimension			Inside Dimension				
		°C	°F	H	W	D	H	W	D		
HCS2700-34-25-1	25ft³	-34	-30	34in (86cm)	83in (210cm)	31in (78cm)	24in (61cm)	77in (195cm)	23in (58cm)	120V (60Hz)	10
HCS2700-34-25-2	25ft³	-34	-30	34in (86cm)	83in (210cm)	31in (78cm)	24in (61cm)	77in (195cm)	23in (58cm)	220V (50Hz)	5

Temperature Recorders
Watlow F4T

The Watlow F4T with INTUITION® temperature process controller offers a wide range of field removable I/O modules for maximum design flexibility. The F4T controller features a 4.3-inch touch screen panel with integrated functions making navigation easy and intuitive. This device fits in existing F4 panel cutout.

This series allows custom configurations which Heatcon can assist you in putting the perfect combination together.

WATLOW.®

WATLOW® Authorized Distributor

Features:
4.3-inch, color touch panel with high resolution, graphical interface
Temperature PID, data logger, trend chart, over/under-temperature limit, power switching, math, logic, timers and counters combined into an integrated system
Robust algorithms for temperature, cascade, altitude, humidity and compressor
Email and text alerts
COMPOSER® graphical configuration PC software
Batch processing with bar code data entry
Many communications options available including EtherNet/IP™, Modbus® TCP (Ethernet) SCPI and EIA-232/485 Modbus® RTU
Modular design
SERIES F4S/F4D/F4P backward compatible

Specifications	
Thermocouple (Type J)	Operating Range: -346-2192°F (-210-1200°C)
Thermocouple (Type K)	Operating Range: -454-2500°F (-270-1391°C)
USB	2 USB Ports Available
Configuration	Six available slots for flex modules
Voltage	100 to 240VAC
Power Consumption	23 W
Data Logging	User selectable parameters: Up to a maximum of 128 active parameters depending on configuration File types: .CSV for standard data logging or proprietary format for encrypted data log option

Mobile Tool Cart
HCS2050

The HCS2050 series mobile tool cart is designed to provide you with a central storage for all the necessary tools you need to efficiently perform a composite repair.

A wide array of tools and accessories are available to provide you with everything you need to effectively complete the job.

This pre-assembled cart includes drawer dividers so you can have a place for each tool and storage for your hot bonder, so you always know where to find them.

Actual Configuration May Vary

Features:		
35.5" H x 70" L x 28.5" D		
Cable Hook and handle		
4ea locking casters		
Ribbed top mat on work surface		
Four storage drawers with configurable dividers		
Bonder storage compartment		
HCS2050-04 is for "Cart Only"		

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Portable Electronic Scales

Typically used for weighing fillers, adhesives, and resins during composite layup applications. The HCS2038-03 Series electronic scales allows for accurate weight measurements up to 6200g.

HCS2038-03-003

HCS2038-03-005

Shop Equipment

Specifications

Model Number	Description*	Pan Size	Capacity	Accuracy	Units	Power Incl.
HCS2038-03-003	Portable Scale Round Platform	5.5in diameter round	620g	±0.01g	g, ct, lb/oz	115 VAC (230 VAC, REQUIRES HCS2038-03-009)
HCS2038-03-005	Portable Scale Square Platform	7.5x7.5in (19.05cm x 19.05cm)	6200g	±0.1g	g, ct, lb/oz	115 VAC (230 VAC, REQUIRES HCS2038-03-009)

Model Number	Description	Voltage	Style
HCS2038-03-009	ADAPTER, SCALE	6VDC/230VAC	EUROPEAN STYLE, (FOR HCS2038-03-003, 005)

Note: Above images are provided to represent the type of product only.
Balance scales cannot be calibrated before shipping. Reference manufacturer manual for calibration instructions.

Downdraft Tables
HCS2037

Our HCS2037 series downdraft tables enable source capture collection efficiency for industrial applications requiring larger, open collection areas and work surfaces. These downdraft tables combine the work surface with the particulate collection area. The downdraft design draws contaminants away from the technician's breathing zone without hindering their movement or productivity. We offer a selection of portable and stationary downdraft tables for most any type of grinding, sanding, and welding application.

HCS2037-24

Available Options:
- Center Divider & Side Shields
- Alternate Grate
- Standardized Replacement HEPA Filter
- Regulator
- Regain Enclosure
- Backsplash Extension

HCS2037-22

Shop Equipment

Downdraft Tables					
Part Number[1]	Table Dimensions (W x H x D)	Work Surface Dimensions (W x D)	Motor (HP)	Downdraft Velocity (FPM)	Noise Level (dBA)
HCS2037-22	32in x 33in x 31in (81.3cm x 83.8cm x 78.7cm)	32in x 24.5in (81.3cm x 62.2cm)	1.5	150	79
HCS2037-23	48.5in x 33in x 31in (123.1cm x 83.8cm x 78.7cm)	48in x 24.5in (121.9cm x 62.2cm)	3.0	208	79
HCS2037-24	70in x 33in x 42in (177.8cm x 83.8cm x 106.8cm)	66.25in x 42in (168.2cm x 106.6cm)	5.0	250	81

[1]All units available in 50Hz configurations.
NOTE: Please specify voltage, frequency, and other options when requesting quote.

HEATCON COMPOSITE SYSTEMS®

Dust Collection
HCS2037

Airborne contaminants produced during manufacturing and processing applications are not always effectively collected with ambient dust collector systems.

These portable dust collectors deliver up to 1200 CFM of source collection power anywhere it's needed on the shop floor. These portable dust collectors offer multiple filter options, including: aluminum mesh pre-filters, high-pressure polyester bag filters, and cartridge filters for collection of contaminants from mist and fumes to dust and smoke.

HCS2037-26

Available Options:
- 7ft, 10ft, or 14ft Extractor Arms
- Dual Extraction Arms
- Standardized Replacement HEPA Filter

HCS2037-27

Shop Equipment

Portable Dust Collectors

Part Number[1]	Dimensions (W x H x L)	Motor (HP)	Nominal Air Flow (CFM)	Noise Level (dBA)
HCS2037-26	24in x 31in x 37in (60.9cm x 78.7cm x 93.9cm)	1.5	800	74
HCS2037-27	24in x 34.25in x 49.25in (60.9cm x 86.9cm x 125.0cm)	3.0	1200	75

[1]All units available in 50Hz configurations.
Note: Please specify voltage, frequency, and other options when requesting quote.

Composite Repair Tool Kit
HCS2036-05

Our selection of Tool Kits were designed by mechanics for mechanics. We have included a wide variety of only the most necessary tools used for completing a composite, a metal bond or a floor panel repair efficiently.

A wide variety of tools are included to provide you everything you need to complete the job, and our pre-assembled, convenient cases have a place for each tool so you always know where to find them. Best of all, each kit is lightweight and portable for the mechanic on the go.

Itemized List of Contents	
Description	**Qty**
Drill Motor	1
Assorted Hole Saws - Piloted, Diamond Cut	3
Counter Sink Feed - Cage Assembly	1
Assorted Counter Sinks - Piloted, Carbide Tip	4
Grinder Motor	1
Grinder - Barrel Attachment for Sanding Disks	1
Various Sanding Pad Holders	2
Diamond Wheel Arbor	1
Router Motor	1
Router Motor Base - Two-Handed	1
Router Bit - 40 Mesh Diamond	1
Assorted Collets	2
Router Bit - Split Helix	1
Random Orbital Sander	1
Assorted Grit Sandpaper	20
Variuous Grit Sandpaper	10
Assorted Sanding Disk	10
Assorted Sanding Disk Bayonets	30
Various Sanding Barrels Astd Sizes	50
Various Fiberglass Cut-Off Wheel	3

Itemized List of Contents	
Description	**Qty**
Cutter - Honeycomb Core	1
Retractable Utility Knife	1
Shears - Soft Touch	1
Vacuum Cleaner - Air Driven	1
Assorted Resin Applicator	3
Manifold, Air, 3 Way	1

Features:

Weight - Only 23lbs (10.4kg)
Size - Compact 15in x 20in x 9in (38.1cm x 50.8cm x 22.9cm)
Each item has its place within the case - reducing the possibility of loss
Individual items can be ordered separately - should replacement be needed
The case is made out of a high impact, shock absorbent material
Portability - Ready for any field repair
Optional - Vacuum for easy clean-up

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Composite Repair Tool Kit
HCS2036-05A

Itemized List of Contents	
Description	**Qty**
Assorted Reamer, Tapered Drill	5
Various Router Bit Diamond Cut	7
Roller, Steel	1
Various Drill Bits Key Point	5
Scribe	1
Knife, Cutting	2
Assorted Blade, Cutting	30
Ruler, Steel	1

The HCS2036-05A Composite Repair Tool Kit is designed as a supplement to our HCS2036-05 Composite Repair Tool Kit, providing additional tools for the repair technician. This kit includes a popular selection of drills, drill stops, guides, reamers and countersinks. All are supplied in a durable, lightweight, impact resistant carrying case.

Features:
Lightweight
Compact size
Easy to use
Items can be ordered individually
Portable and ready for any field repair

HEATCON COMPOSITE SYSTEMS®

Metal Bond Tool Kit
HCS2036-06

Our Metal Bond Repair Tool Kit includes a selection of tools necessary for performing most metal bond repairs. All items are supplied in a compact, impact-resistant carrying case.

Features:

Lightweight
Compact size
Easy to use
Items can be ordered individually
Portable and ready for any field repair

Itemized List of Contents

Description	Qty
Various Router Bits - Taper Pin	12
Cleco® Pliers	1
Various Clecos® Fasteners	10
Clecos® Fasteners	40
Various Clecos® Side Grip Clamp	10
Sanding Pad Holders	2
Assorted Sanding Disk	25
Various Sanding Disk Bayonets	75
Belt Sander	1
Assorted Sanding Belts	20
Countersink Feed - Cage Assembly	1
Various .5in (12.7mm) Countersinks - Piloted, Carbide Tip	4
Assorted Drill Stops	5
Assorted Drill Bits Carbide Tipped	50
Various Drill Reamers - Solid Carbide	5
Drill Guide Housing	1
Assorted Drill Guide Brushings	5
Steel Rule	1
Various Scribe, 10in (25.4cm) Metal	2
Center Punch, Auto	1
Assorted Replacement Punch	6
Tap Hammer	1
Motor Combination Cushion Grip Pliers - 6.5in (16.51cm)	1
Aviation Snips - Straight Cut	1
Aviation Snips - Left Cut	1
Aviation Snips - Right Cut	1
Case, Tool Kit	1
Placard, Tool Kit	1
Air Input FTG, Male, 0.25in Male NPT	1

Shop Equipment

Tool Kits

The HCS2036-09 "UAV" Composite Repair Tool Kit is designed to provide you with all the necessary tools you need to efficiently perform a composite repair.

A wide array of tools and accessories are included to provide you with everything you need to effectively complete the job.

These pre-assembled cases have a convenient place for each tool so you always know where to find them. Best of all, each kit is rugged, lightweight, and portable for those on-location field repairs.

Shop Equipment

Itemized List of Contents	
Description	**Qty**
FITTING, AIR INPUT, MALE, 1/4" NPT MALE, TYPE-M	4
HAMMER, TAP INSPECTION, COMPOSITE STRUCTURES, ALUMINUM CONSTRUCTION WITH LOGO	1
VACUUM PUMP AND SNIFFER ASSEMBLY	1
DRILL GUIDE/HOUSING, FOR BUSHING PART # HCS2036-01-001B TO 001J	1
DRILL GUIDE/BUSHING 3/32"	1
DRILL GUIDE/BUSHING 1/8"	1
DRILL GUIDE/BUSHING 5/32"	1
DRILL GUIDE/BUSHING 3/16"	1
DRILL GUIDE/BUSHING 1/4"	1
DRILL MOTOR, AIR, 5200 RPM, 0-3/8" ID CHUCK	1
ROUTER MOTOR, 208 (1/4") COLLET STD, 0.9HP MOTOR, AIR DRIVEN, 25,000 RPM, STRAIGHT HANDLE, ORANGE HOUSING	1
ROUTER BASE, TWO-HANDED, FOR SERIES, 10-20 GRINDERS	1
ROUTER BIT, 1/4"X 3" OAL, 40 MESH, DIAMOND CUT, 1" CUTTING SURFACE	1
ROUTER BIT, 1/4"X 2" OAL, END MILL STYLE, DIAMOND CUT, 1/4" SHANK DIA., 2" O.A.L., 3/4" FLUTE LENGTH	1
ROUTER BIT, 1/4"X 2" OAL, DRILL PT, DIAMOND CUT, 3/4" FLUTE LENGTH, 1/4" SHANK DIA., 2" O.A.L.	1
ROUTER BIT, 3/16"X 2" OAL, BURR STYLE, DIAMOND CUT, 3/16" SHANK DIA., 2" O.A.L., 3/4" FLUTE LENGTH	1

Itemized List of Contents	
Description	**Qty**
GRINDER, AIR DRIVEN 90 DEG., REAR EXHAUST, 20,000 RPM	1
DRUMS, RUBBER SANDING W/SLEEVE ASSORTMENT, 1/4"DIA SHANK WITH THE FOLLOWING SIZED BARRELS: 1/2" X 1/2", (1/8" DIA SHANK), 3/4" X 1", 1" X 1", 1-1/2" X 1-1/2", 2" X 1-1/2", INCLUDES:1 SET, 50 GRIT AND 1 SET 120 GRIT SLEEVES	1
SANDING BARREL, 1" X 1" X 80 GRIT	1
SANDING PAD, 2", SPEED LOC TS MOUNT WITH THREADED MANDREL (STD ABRASIVES SOCATT MOUNT)	1
SANDING PAD, 1", SPEED LOC TS MOUNT WITH THREADED MANDREL (STD ABRASIVES SOCATT MOUNT)	1
SANDING DISK, 2" DIA, 80 GRIT,SPD LOC TS, STD. ABR. SOCATT MOUNT, ALUM OXIDE	10
SANDING DISK, 1" DIA, 80 GRIT SPD LOC TS, STD. ABR. SOCATT MOUNT, ALUM OXIDE	10
SANDING DISK, 2" DIA, 180 GRIT, SPD LOC TS, STD. ABR. SOCATT MOUNT, ALUM OXIDE	10
SANDING DISK, 1" DIA, 180 GRIT, SPD LOC TS, STD. ABR. SOCATT MOUNT, ALUM OXIDE	10
COUNTERSINK FEED (CAGE ASSEMBLY)	1
COUNTERSINK, 1/2" X 100 DEGREE, 1/8" PILOT, CARBIDE TIPPED	1
COUNTERSINK, 1/2" X 100 DEGREE, 5/32" PILOT, CARBIDE TIPPED	1
COUNTERSINK, 1/2" X 100 DEGREE, 3/16" PILOT, CARBIDE TIPPED	1

Itemized List of Contents	
Description	**Qty**
COUNTERSINK, 1/2" X 100 DEGREE, 1/4" PILOT, CARBIDE TIPPED	1
CUTTER, HONEYCOMB CORE, FLAT KNIFE	1
SANDING DISK, 1" DIA, 120GRIT SPD LOC TS, STD ABR. SOCATT MOUNT, ALUM OXIDE	10
SANDING DISK, 2" DIA, 120 GRIT SPD LOC TS, STD ABR. SOCATT MOUNT, ALUM OXIDE	10
ROUTER BIT, 1/4" SPLIT HELIX, FOR CUTTING KEVLAR LAMINATES, CARBIDE 1/4"DIA 2.5" LONG, SPEED 1600-1900 SFM, **MUST SUPPLY WITH WARNING NOTICES	1
ROUTER BIT, 1/4" X 3" OAL, BURR	1
ROUTER BIT, 1/4"X 3" OAL, DRILL PT, CARBIDE, 3" LONG X 1" FLUTE LENGTH FOR KEVLAR, DIAMOND CUT	1
ROUTER BIT, 1/4"X 3" OAL, END MILL CARBIDE, 3" LONG X 1" FLUTE LENGTH, FOR KEVLAR, DIAMOND CUT	1
ROUTER BIT, 1/4"X 3" OAL, BI SHEAR, COMPRESSION, FOR KEVLAR 1" FLUTE LENGTH	1
KNIFE, RETRACTABLE UTILITY	1
SHEARS, FISKAR SOFT TOUCH NOT FOR USE ON KEVLAR MATERIAL, 10-1/2" OAL X 3-5/8" CUTTING LENGTH	1

For more information call: USA/ASIA +1 (206) 575-1333 • UK +44 (0) 1480-410740 • info@heatcon.com

HEATCON COMPOSITE SYSTEMS®

UAV Composite Repair Tool Kit | Floor Panel Repair Tool
HCS2036-09 | HCS2036-07

UAV Composite Repair Tool Kit

Itemized List of Contents	
Description	**Qty**
SHEARS, FOR KEVLAR, RH, 12" OAL, CARBIDE COATED	1
SWEEP KIT, 7PC, 1/4", POLYETHYLENE	1
DRILL BIT, 3/32" SOLID CARBIDE, 118 DEG POINT, JOBBER LENGTH**NOT RECOMMENDED FOR KEVLAR**	10
DRILL BIT, 1/8", CARBIDE TIPPED, 135 DEGREE POINT, JOBBER LENGTH**NOT RECOMMENDED FOR KEVLAR**	10
DRILL BIT, 5/32", CARBIDE TIPPED, 135 DEGREE POINT, JOBBER LENGTH**NOT RECOMMENDED FOR KEVLAR**	10
DRILL BIT, 3/32", KEV POINT, FOR KEVLAR	5
DRILL BIT, 1/8", KEV POINT, FOR KEVLAR	5
DRILL BIT, 5/32", KEV POINT, FOR KEVLAR	5
DRILL BIT, 3/16", KEV POINT, FOR KEVLAR	5
DRILL BIT, 1/4", KEV POINT, FOR KEVLAR, OAL UNDER 3"	5
DRILL BIT, 3/16", CARBIDE TIPPED, 135 DEGREE SPLIT POINT, 2.25", NOT RECOMMENDED FOR KEVLAR	10

Itemized List of Contents	
Description	**Qty**
DRILL BIT, 1/4", CARBIDE TIPPED, 135 DEGREE SPLIT POINT, 2.5", NOT RECOMMENDED FOR KEVLAR	10
MICROSCOPE, MAGNIFIER, 30X	1
SANDER, RANDOM/ORBITAL, 5" PAD, 12,000 RPM 1/2HP	1
SANDING BARREL, 1/2"X1/2", 120 GRIT	1
SANDING BARREL, 3/4"X1", 120 GRIT	1
SANDING BARREL, 1" X 1", 120 GRIT	1
SANDING BARREL, 1-1/2"X1-1/2", 120 GRIT	1
SANDING BARREL, 2"X 1-1/2", 120GRIT	1
SANDING BARREL, 1/2" X 1/2", 80 GRIT	1
SANDING BARREL, 3/4" X 1", 80 GRIT	1
SANDING BARREL, 1-1/2" X 1-1/2"X 80 GRIT	1
SANDING BARREL, 2"X 1-1/2", 80 GRIT	1
SANDING DISK, 5" DIA, 80 GRIT ALUMINUM OXIDE, PSA STICK-IT	10

Itemized List of Contents	
Description	**Qty**
SANDING DISK, 5" DIA, 120 GRIT ALUMINUM OXIDE, PSA STICK-IT	10
CUT-OFF WHEEL, 3", FIBERGLASS REINFORCED 3" X 1/16" X 1/4" ARBOR, MAX SPEED 25,465 RPM	10
ARBOR, DIAMOND WHEEL 1/4" SHANK	1
COLLET, 5/32", FOR .110 SMALL END, .128 SHANK, #2 ROUTER BIT, (USE WITH HCS2036-01-012 ROUTER MOTOR)	1
BLADE, CUTTING KNIFE, CHISEL, #18, FITS KNIFE HCS2036-01-120, 5 BLADES PER PACKAGE	5
BLADE, CUTTING KNIFE, CARVING, #19, FITS KNIFE HCS2036-01-120 5 BLADES PER PACKAGE	5
BLADE, CUTTING KNIFE, ANGLED, #24 FITS KNIFE HCS2036-01-120A 5 BLADES PER PACKAGE	5
KNIFE, CUTTING, #2, REPLACEABLE BLADE	1
KNIFE, CUTTING, HEX METAL HANDLE, REPLACEABLE BLADE	1

Floor Panel Repair Tool

Our Floor Panel Repair Tool Kit includes an assortment of tools needed for common floor panel repairs. The Floor Panel Repair Tool Kit is packaged in a compact, impact resistant case.

NSN: 5180-01-528-2194

Itemized List of Contents	
Description	**Qty**
Cutter, Rebate	2
Closing Tool	1
Drill Bits - Kevlar™	4
Assorted Counter Bores	6

Features:
Lightweight
Compact size
Easy to use
Items can be ordered individually
Portable and ready for any field repair

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Drill Motor and Bits
HCS2036-01-002

The HCS2036-01-002 Drill Motor is ergonomically designed, compact, quiet and powerful. This tool comes with a short body length, ideal for working in tight areas, while the light weight and perfect balance makes it the mechanics' favorite drill.

HCS2036-01-002
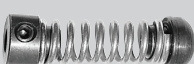
Specifications:
Weight - 1.5lbs (0.7kg)	
Height - 6.3in (15.9cm)	
RPM - 5,200	
Diameter Capacity - .0375in (9.525mm)	
Throttle - Two Stage	
Exhaust - 360° Rotable	

Drill Bits - Carbon Fiber and Kevlar™

Description	Image	Part Number	Overall Diameter	Angle	Flute Length	Overall Length
Drill Bit - Carbide Tipped		HCS2036-01-056A (solid carbide)	.09in (2.5mm)	118°	1.125in (2.86cm)	2.25in (5.72cm)
Drill Bit - Carbide Tipped		HCS2036-01-057A	0.125in (3.2mm)	135°	1.75in (4.45cm)	2.75in (6.99cm)
Drill Bit - Carbide Tipped		HCS2036-01-058A	0.16in (4.0mm)	135°	2in (5.08cm)	3.125in (7.94cm)
Drill Bit - Carbide Tipped		HCS2036-01-059G	0.19in (4.8mm)	135°	2.375in (6.03cm)	3.5in (8.89cm)
Drill Bit - Carbide Tipped		HCS2036-01-059H	0.25in (6.4mm)	135°	2.75in (6.99cm)	4in (10.16cm)
Drill Bit - Kev Point Twist		HCS2036-01-059B	.09in (2.5mm)		1in (2.54cm)	2in (5.08cm)
Drill Bit - Kev Point Twist		HCS2036-01-059C	0.125in (3.2mm)		1.25in (3.18cm)	2.25in (5.72cm)
Drill Bit - Kev Point Twist		HCS2036-01-059D	0.16in (4.0mm)		1.375in (3.49cm)	2.5in (6.3.5cm)
Drill Bit - Kev Point Twist		HCS2036-01-059E	0.19in (4.8mm)		1.625in (4.13cm)	2.75in (6.98cm)
Drill Bit - Kev Point Twist		HCS2036-01-059F	0.25in (6.4mm)		2in (5.08cm)	3.25in (8.26cm)

![HEATCON COMPOSITE SYSTEMS®]

Drill Motor and Bits
Drill Motor Accessories and Attachments | Counter Bores

Drill Motor Accessories and Attachments

Description	Image	Part Number	Overall Diameter
Drill Stop		HCS2036-01-060	#40
Drill Stop		HCS2036-01-061	#30
Drill Stop		HCS2036-01-062	#21
Drill Stop		HCS2036-01-063	#11
Drill Stop		HCS2036-01-063A	#14
Drill Guide Bushing*		HCS2036-01-001B	.09in (2.5mm)
Drill Guide Bushing*		HCS2036-01-001D	0.125in (3.2mm)
Drill Guide Bushing*		HCS2036-01-001F	0.16in (4.0mm)
Drill Guide Bushing*		HCS2036-01-001H	0.19in (4.8mm)
Drill Guide Bushing*		HCS2036-01-001J	0.25in (6.4mm)
Drill Guide Housing*		HCS2036-01-001	Used for drilling straight holes at 90°

* Also available as a kit: HCS2036-01-001K

Counter Bores

Description	Image	Part Number	Overall Diameter
Counter Bore		HCS2036-01-064	0.5in (12.7mm)
Counter Bore		HCS2036-01-065	0.75in (19.2mm)
Counter Bore		HCS2036-01-066	1in (2.54cm)

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Reamers					
Description	Image	Part Number	Overall Diameter	Flute Length	Overall Length
Reamers - Solid Carbide		HCS2036-01-010A	.09in (2.5mm)	1in (2.54cm)	6in (15.24cm)
Reamers - Solid Carbide		HCS2036-01-010	0.125in (3.2mm)	1.125in (2.86cm)	6in (15.24cm)
Reamers - Solid Carbide		HCS2036-01-009	0.16in (4.0mm)	1.25in (3.18cm)	6in (15.24cm)
Reamers - Solid Carbide		HCS2036-01-008	0.19in (4.8mm)	1.5in (3.81cm)	6in (15.24cm)
Reamers - Solid Carbide		HCS2036-01-007	0.25in (6.4mm)	1.75in (4.44cm)	6in (15.24cm)
Reamers - Taper Drill		HCS2036-01-006A	.09in (2.5mm)	1.5in (3.81cm)	4in (10.16cm)
Reamers - Taper Drill		HCS2036-01-006B	0.125in (3.2mm)	1.5in (3.81cm)	4in (10.16cm)
Reamers - Taper Drill		HCS2036-01-006C	0.16in (4.0mm)	1.5in (3.81cm)	4in (10.16cm)
Reamers - Taper Drill		HCS2036-01-006D	0.19in (4.8mm)	1.5in (3.81cm)	4in (10.16m)
Reamers - Taper Drill		HCS2036-01-006E	0.25in (6.4mm)	1.5in (3.81cm)	4in (10.16cm)

Drill Motor Accessories and Attachments					
Description	Image	Part Number	Overall Diameter	Angle	Shank Length
Piloted, Diamond Cut Hole Saws		HCS2036-01-089	1in (2.54cm)		0.375in (9.525mm)
Piloted, Diamond Cut Hole Saws		HCS2036-01-090	1.5in (3.81cm)		0.375in (9.525mm)
Piloted, Diamond Cut Hole Saws		HCS2036-01-091	2in (5.08cm)		0.375in (9.525mm)
Counter Sink Feed - Cage Assembly		HCS2036-01-034	28 Female Threads: 0.25in (6.4mm)		0.25in x 4in (6.4mm x 10.16cm)
Counter Sinks - with Piloted Carbide Tip		HCS2036-01-035	0.125in (3.2mm)	100°	
Counter Sinks - with Piloted Carbide Tip		HCS2036-01-036	0.16in (4.0mm)	100°	
Counter Sinks - with Piloted Carbide Tip		HCS2036-01-037	0.19in (4.8mm)	100°	
Counter Sinks - with Piloted Carbide Tip		HCS2036-01-038	0.25in (6.4mm)	100°	

Shop Equipment

Router Motor and Bits
Router Bits - Fiberglass & Carbon Fiber

HCS2036-01-012 Router Motor

The HCS2036-01-012 Router Motor is small, comfortable and lightweight, yet it can withstand rugged treatment. This tool can be used with the HCS2036-01-013 Two-Handed Router Motor Base.

HCS2036-01-013 Router Motor Base

Specifications:
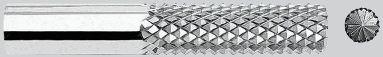
Weight - 1.1lbs (0.5kg)	
Height - 6.3in (15.9cm)	
Head Height - 2.9in (7.4cm)	
RPM - 23,000	
Exhaust - Front	
Collet Size - 0.25in (6.35mm)	
Sanding Capacity - 2in (5.08cm)	

Router Bits - Fiberglass and Carbon Fiber

Description	Image	Part Number	Overall Length	Shank Diameter	Flute Length	Cutter Diameter
Router Bits - 40 Mesh Diamond Cut		HCS2036-01-014	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - 40 Mesh Diamond Cut		HCS2036-01-014A	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.375in (9.5mm)
Router Bits - 40 Mesh Diamond Cut		HCS2036-01-016	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.5in (12.7mm)
Router Bits - Diamond Cut - End Mill		HCS2036-01-015	2in (5.08cm)	0.25in (6.4mm)	0.75in (19.1mm)	0.25in (6.4mm)
Router Bits - Diamond Cut - Drill Point		HCS2036-01-015A	2in (5.08cm)	0.25in (6.4mm)	0.75in (19.1mm)	0.25in (6.4mm)
Router Bits - Diamond Cut - Burr Style		HCS2036-01-015B	2in (5.08cm)	0.25in (6.4mm)	0.75in (19.1mm)	0.25in (6.4mm)
Router Bits - Diamond Cut - Burr Style		HCS2036-01-015C	2in (5.08cm)	0.19in (4.8mm)	0.625in (15.9mm)	0.19in (4.8mm)

Shop Equipment

Router Bits - Kevlar™

Description	Image	Part Number	Overall Length	Shank Diameter	Flute Length	Cutter Diameter
Router Bits - *Split Helix		HCS2036-01-043	2.5in (6.35cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - Diamond Cut Burr Style		HCS2036-01-043A	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - Diamond Cut - Drill Point		HCS2036-01-043B	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - Diamond Cut - End Mill		HCS2036-01-043C	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - Honeycomb Panel		HCS2036-01-044A	3in (7.62cm)	0.25in (6.4mm)	1in (2.54cm)	0.25in (6.4mm)
Router Bits - *Bi Shear Compression		HCS2036-01-044	2.5in (6.35cm)	0.25in (6.4mm)	0.75in (19.1mm)	0.25in (6.4mm)

Router Motor and Bits
Router Bits - Aluminum | Router Collets | Router Templates

Router Bits - Aluminum

Description	Image	Part Number	Overall Length	Shank Diameter	Flute Length	Cutter Diameter
Router Bits - Taper Pin		HCS2036-01-017	2.25in (5.72cm)	0.128in (3.3mm)	0.875in (22.2mm)	0.110in (2.8mm)
Router Bits - Taper Pin		HCS2036-01-018A	2.5in (6.35cm)	0.19in (4.8mm)	1.19in (2.55cm)	0.165in (4.2mm)
Router Bits - Taper Pin		HCS2036-01-018	2.75in (6.99cm)	0.25in (6.4mm)	1.25in (3.18m)	0.25in (6.4mm)

Router Collets
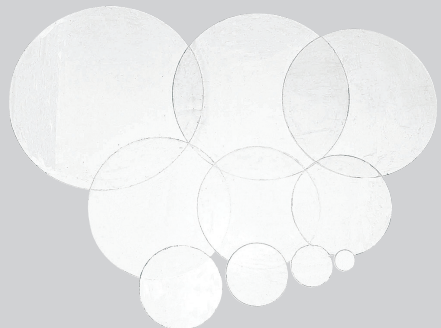
Description	Image	Part Number	Overall Length	Minimum Capacity	Maximum Capacity
Collets		HCS2036-01-101	1.19in (30.22mm)	0.125in (3.2mm)	0.16in (4.0mm)
		HCS2036-01-102	1.19in (30.22mm)	0.156in (4.0mm)	0.1875in (4.8mm)
		HCS2036-01-103	1.19in (30.22mm)	0.343in (8.7mm)	0.375in (9.5mm)

Router Templates - Aluminum

Description	Image	Part Number	Inner Diameter	Outer Diameter
Router Templates		HCS2036-01-122A	4.9in (12.5cm)	8.86in (22.5cm)
		HCS2036-01-122B	5.9in (15cm)	9.84in (25cm)
		HCS2036-01-122C	6.89in (17.5cm)	10.83in (27.5cm)
		HCS2036-01-122D	7.87in (20cm)	11.81in (30cm)
		HCS2036-01-122E	8.85in (22.5cm)	12.79in (32.5cm)
		HCS2036-01-122F	9.84in (25cm)	13.78in (35cm)

Shop Equipment

Router Motor Lay-up Cutting Templates
Router Templates

Lay-up Cutting Templates - Aluminum and Plastic

Description	Image	Part Number	Overall Diameter
Lay-up Cutting Templates - Metal Kit (HCS2036-123 consists of all part numbers listed on the right)		HCS2036-01-123A	0.98in (25mm)
		HCS2036-01-123B	1.96in (5cm)
		HCS2036-01-123C	2.95in (7.5cm)
		HCS2036-01-123D	3.93in (10cm)
		HCS2036-01-123E	4.92in (12.5cm)
		HCS2036-01-123F	5.9in (15cm)
		HCS2036-01-123G	6.89in (17.5cm)
		HCS2036-01-123H	7.87in (20cm)
		HCS2036-01-123I	8.85in (22.5cm)
		HCS2036-01-123J	9.84in (25cm)
Lay-up Cutting Templates - Plastic Kit (HCS2036-124 consists of all part numbers listed on the right)		HCS2036-01-124A	0.98in (25mm)
		HCS2036-01-124B	1.96in (5cm)
		HCS2036-01-124C	2.95in (7.5cm)
		HCS2036-01-124D	3.93in (10cm)
		HCS2036-01-124E	4.92in (12.5cm)
		HCS2036-01-124F	5.9in (15cm)
		HCS2036-01-124G	6.89in (17.5cm)
		HCS2036-01-124H	7.87in (20cm)
		HCS2036-01-124I	8.85in (22.5cm)
		HCS2036-01-124J	9.84in (25cm)

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Grinder Motor and Sanding Barrels
Sanding Barrels

The HCS2036-01-022 Grinder Motor is designed to reduce vibration and operate as quietly as possible while still providing substantial power. This is accomplished by using precision parts, high-quality bearings and elastomer housings.

HCS2036-01-022

Specifications:

Weight - 1.25lbs (0.6kg)	
Height - 6.9in (17.5cm)	
RPM - 20,000	
Exhaust - Front	
Collet Size - 0.25in (6.35mm)	
Abrasives Capacity - 0.75in (19.1mm) Carbide Bur, 1.5in (38.1mm) Mounted Wheel	
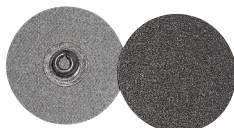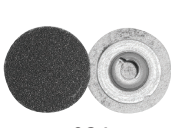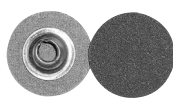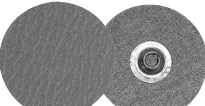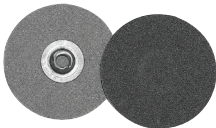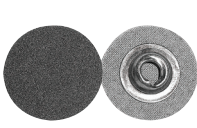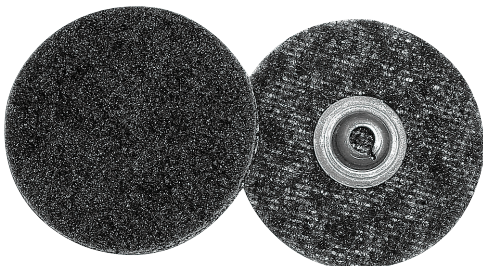
Sanding Barrels
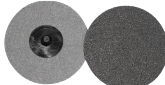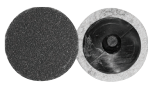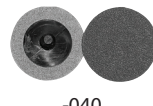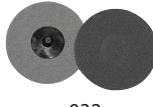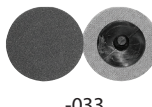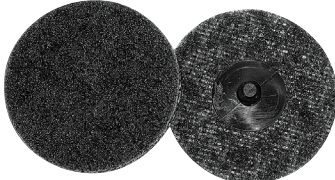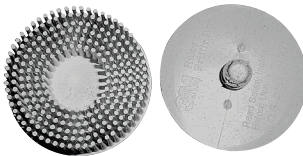
Description	Image		Part Number	Overall Diameter		Grit
Grinder - Barrel Attachment for Sanding Disks			HCS2036-01-025	0.5in x 0.5in (12.7mm x 12.7mm) 0.75in x 1in (19.1mm x 2.54cm) 1in x 1in (25.4mm x 2.54cm)	1.5in x 1.5in (3.81cm x 3.81cm) 2in x 1.5in (5.08cm x 3.81cm)	
Sanding Barrels	-027	-077	HCS2036-01-027	1in x 1in (2.54cm x 2.54cm)		180
			HCS2036-01-077	1in x 1in (2.54cm x 2.54cm)		120
	-075	-080	HCS2036-01-075	0.5in x 0.5in (12.7mm x 12.7mm)		120
			HCS2036-01-080	0.5in x 0.5in (12.7mm x 12.7mm)		80
	-076	-081	HCS2036-01-076	0.75in x 1in (19.1mm x 2.54cm)		120
			HCS2036-01-081	0.75in x 1in (19.1mm x 2.54cm)		80
	-078	-082	HCS2036-01-078	1.5in x 1.5in (3.81cm x 3.81cm)		120
			HCS2036-01-082	1.5in x 1.5in (3.81cm x 3.81cm)		80
	-079	-083	HCS2036-01-079	2in x 1.5in (5.08cm x 3.81cm)		120
			HCS2036-01-083	2in x 1.5in (5.08cm x 3.81cm)		80

Shop Equipment

Grinder Motor Sanding Disks / Bayonets
Sanding Disks and Bayonets

Sanding Disks and Bayonets - Quick Connect Lock - TS Mount					
Description	**Image**		**Part Number**	**Overall Diameter**	**Grit**
Sanding Pad Holders Sanding Disks	-028	-029	HCS2036-01-028	2in (5.08cm)	
			HCS2036-01-029	1in (2.54cm)	
Sanding Disk Bayonets	-030	-031	HCS2036-01-030	2in (5.08cm)	80
			HCS2036-01-031	1in (2.54cm)	80
	-040	-041	HCS2036-01-040	1in (2.54cm)	120
			HCS2036-01-041	2in (5.08cm)	120
	-032	-033	HCS2036-01-032	2in (5.08cm)	180
			HCS2036-01-033	1in (2.54cm)	180
Surface Re-conditioning Disks (Nylon Pads)			HCS2036-01-117A	1in (2.54cm)	Fine
			HCS2036-01-117B	2in (5.08cm)	Fine
			HCS2036-01-118A	1in (2.54cm)	Med
			HCS2036-01-118B	2in (5.08cm)	Med
			HCS2036-01-119A	1in (2.54cm)	Coarse
			HCS2036-01-119B	2in (5.08cm)	Coarse

![HEATCON COMPOSITE SYSTEMS logo]

Grinder Motor Sanding Disks / Bayonets
Sanding Disks and Bayonets

Sanding Disks and Bayonets - Roloc™[1] - TR Mount

Description	Image		Part Number	Overall Diameter	Grit
Sanding Pad Holders Sanding Disks	-028	-029	HCS2036-02-028	2in (5.08cm)	
			HCS2036-02-029	1in (2.54cm)	
Sanding Disk Bayonets	-030	-031	HCS2036-02-030	2in (5.08cm)	80
			HCS2036-02-031	1in (2.54cm)	80
	-040	-041	HCS2036-02-040	1in (2.54cm)	120
			HCS2036-02-041	2in (5.08cm)	120
	-032	-033	HCS2036-02-032	2in (5.08cm)	180
			HCS2036-02-033	1in (2.54cm)	180
Surface Reconditioning Disks (Nylon Pads)			HCS2036-02-117A	1in (2.54cm)	Fine
			HCS2036-02-117B	2in (5.08cm)	Fine
			HCS2036-02-118A	1in (2.54cm)	Med
			HCS2036-02-118B	2in (5.08cm)	Med
			HCS2036-02-119A	1in (2.54cm)	Coarse
			HCS2036-02-119B	2in (5.08cm)	Coarse
Bristle Reconditioning Disks (Rubber Pads)			HCS2036-08-250	2in (5.08cm)	50
			HCS2036-08-280	2in (5.08cm)	80
			HCS2036-08-220	2in (5.08cm)	120

[1]Roloc™ is a registered trademark of the 3M Corporation.

Grinder Motor Accessories and Attachments

Description	Image	Part Number	Overall Diameter	Grit
Arbor		HCS2036-01-092	0.25in (6.4mm)	
Fiberglass Cut-Off Wheel		HCS2036-01-087	3in (7.62cm)	
Grinder Stone Barrel Zirconia Alumina Points		HCS2036-01-023	1in x 1.125in (2.54cm x 3.81cm)	30
Grinder Stone Mushroom Zirconia Alumina Points		HCS2036-01-024	0.75in x 1.125in (19.1mm x 2.86cm)	30

Shop Equipment
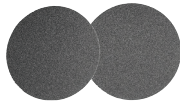
Additional Repair Tools
Orbital Sander

HCS2036-01-100

The HCS2036-01-100 Random Orbital Sander is designed to help the end-user run a clean operation. This tool, along with the HCS2036-01-022 Grinder Motor, come standard with oiless blades, making it a clean operating tool.

Also available with vacuum (HCS2036-01-100-VAC), eliminating inhalation and mess of particles from sanding.

Specifications:

Weight - 2.4lbs (1.1kg)	
Height - 4.2in (10.7cm)	
Length - 5.3in (13.5cm)	
RPM - 10,000	
Sanding Pad - 5in (12.7cm)	
Exhaust - Rear (or vacuum)	

Random Orbital Sander Accessories and Attachments

Description	Image	Part Number	Overall Diameter	Grit
Sandpaper	For use with sander shown above	HCS2036-01-084	5in (12.7cm)	80
		HCS2036-01-085	5in (12.7cm)	120
	For use with HCS2036-01-070-VAC	HCS2036-01-111	5in (12.7cm)	80
		HCS2036-01-112	5in (12.7cm)	120

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Additional Repair Tools
Belt Sander | Cleco® Pliers

HCS2036-06-001

The HCS2036-06-001 Belt Sander is a right angle sander used for contouring honeycomb when performing a metal bond repair.

Specifications:

Weight - 1.4lbs (1.1kg)	
Length - 11.3in (13.5cm)	
RPM - 20,000	
Sanding Pad - 0.5in x 12in (12.7mm x 30.48cm)	
Exhaust - Front	

Belt Sander Accessories and Attachments

Description	Image	Part Number	Overall Diameter	Grit
Sanding Belts		HCS2036-06-001-80	0.5in x 12in (12.7mm x 30.48cm)	80
		HCS2036-06-001-120	0.5in x 12in (12.7mm x 30.48cm)	120

HCS2036-01-050

The HCS2036-01-050 Cleco® Pliers are constructed out of top quality forged steel and nickel-plated to resist wear and tear. This manual plier makes for ease of operation when installing Cleco® fasteners.
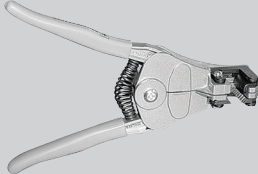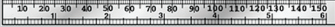
Cleco® Pliers Accessories and Attachments

Description	Image	Part Number	Overall Diameter	Grip	Size Number
Clecos *Also available as a kit. HCS2036-06-008 (kit includes 10 each)		HCS2036-01-045A	.09in (2.5mm)	0.5in (12.7mm)	#40
		HCS2036-01-045	0.125in (3.2mm)	0.5in (12.7mm)	#30
		HCS2036-01-046	0.16in (4.0mm)	0.5in (12.7mm)	#21
		HCS2036-01-047	0.19in (4.8mm)	0.5in (12.7mm)	#10
		HCS2036-01-048	0.25in (6.4mm)	0.25in (6.4mm)	#10
Cleco® Side Clamp Grip		HCS2036-06-009	0.75in x 0.5in (19.1mm x 12.7mm)		

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Shop Equipment

Additional Repair Tools and Accessories			
Description	**Image**	**Part Number**	**Details**
Soft Touch Shears		HCS2036-01-053	Cushion Grip Left/Right Handed Use Spring Action Adjustable Rivet NOT for cutting Kevlar™
Kevlar™ Shears		HCS2036-01-053K	8in - High Leverage Serrated Edge for Kevlar™
Kevlar™ Shears		HCS2036-01-186	11in - Left / Right Shears Ideal for Cutting Kevlar™
Kevlar™ Shears		HCS2036-01-187	8in - High Leverage Serrated Edge for Kevlar™
Aviation Snips- Left Cut*		HCS2036-06-011B	0.8 lbs (0.36kg)
Straight Cut*		HCS2036-06-011A	0.8 lbs (0.36kg)
Right Cut* *Also available as a kit: HCS2036-06-011		HCS2036-06-011C	0.8 lbs (0.36kg)
Honeycomb Core Knife		HCS2036-01-039	Blade: 4in x 1.75in (10.2cm x 3.2cm) Leather Handle
Retractable Utility Knife		HCS2036-01-051	Three Blade Positions Aluminum Diecast Handle - Gray
Step-Ply Cutting Knife		HCS2036-01-120A	Handle: Aluminum Diameter: 0.44in (1.1cm) Length: 4.61in (11.9cm)
Step-Ply Cutting Knife Blades *Also available as a kit: HCS2036-01-120		HCS2036-01-120-18	Chiseling Blade Length: 1.81in (4.6cm)
		HCS2036-01-120-19	Straight Cutting Blade Length: 1.63in (4.1cm)
		HCS2036-01-120-24	Detail Cutting Blade Length: 1.56in (4.0cm)

Additional Repair Tools
Accessories

Additional Repair Tools and Accessories			
Description	**Image**	**Part Number**	**Details**
Cushion Grip Peel Pliers		HCS2036-06-007	Length: 6.5in (16.5 cm) Jaw: 1in (2.5 cm) Nose Type: Regular
Thermocouple Wire Stripper		HCS2036-01-049	One light squeeze strips wire clean up to 0.875in (2.2 cm)
Magnifier		HCS2036-01-067	Used to determine fiber alignment during ply removal
Pocket Rule		HCS2036-01-132	Stainless Steel 6in x 0.5in (15.24cm x 12.7mm) Metric and English
Air Driven Vacuum Cleaner		HCS2036-01-069	Venturi Design with 1in ID 12in (30.5 cm) Rigid Tube 0.25in Inlet 0.53lbs (0.24kg)
Blue Applicator		HCS2036-01-086	Used for applying liquid laminating resin during a wet lay-up procedure to smooth and compact prepreg materials. Also used to smooth paste adhesives or fillers.
Sweep Kit (7 pieces)		HCS2036-01-055	Plastic Polyethylene Squeegee used for applying liquid laminating resin to saturate dry fabric during a wet lay-up procedure to smooth and compact prepreg materials during hand lay-up process. Also used to smooth paste adhesives or fillers.

Shop Equipment

HEATCON COMPOSITE SYSTEMS®

Additional Repair Tools
Accessories

Shop Equipment

Additional Repair Tools and Accessories			
Description	**Image**	**Part Number**	**Details**
Material Roller		HCS2036-01-054	2in (5.1cm) Wide Steel Roller
Fiberglass Roller		HCS2036-01-121	0.5in x 3in Aluminum Roller (1.27cm x 7.6cm)
Fiberglass Replacement Rollers		HCS2036-01-121A	0.5in x 3in Aluminum Roller (1.27cm x 7.6cm)
Fiberglass Replacement Rollers		HCS2036-01-121B	0.5in x 3in Plastic Roller (1.27cm x 7.6cm)
Tap Hammer		HCS1104-01	Aluminum Construction Handle: 8in (20.3 cm) Head: 0.5in x 1.5in (1.3cm x 3.8cm)
Scribe		HCS2036-01-114	Used to mark metals for processing Length: 10in (25.4cm)
Auto Center Punch		HCS2036-06-006	Fully adjustable heavy and light marking Length: 5.5in (13.97cm) Handle Diameter: 0.5in (12.7mm) *Point Diameter: .03in (.794mm)
Replacement Punch		*HCS2036-06-006A	* Point Diameter: .03in (.794mm)
Insert Closing Tool		HCS2036-07-003A	Used on floor panel inserts Diameter: 1in (2.54cm) Pilot Diameter: 0.1875in (4.8mm)
3-way Air Manifold		HCS2036-01-088	3 NPT Female Threads - 0.25in (6.35mm) 1 NPT Female Thread - 0.375in (9.5mm)

Equipment Calibration and Rental

Equipment Rentals

If you are in need of Heatcon Equipment for short term use, Heatcon offers a rental program where you can rent out any of the below equipment* for week long increments.

Dual Zone Bonders

- HCS9200B
- HCS9200 Electric Vacuum
- HCS9200 Flight Line

Single Zone Bonders

- HCS9000B
- HCS9000C Touch Screen

Micro Bonders

- HCS8806

Accessories

- HCS2070 Printer Station
- HCS9300 Network Controller
- HCS9320E Thermocouple Expansion
- HCS9340E Thermocouple Expansion
- HCS2051 Bonder Calibration
- HCS2055-06 Vacuum Pump
- HCS2047 Heat Blanket Tester

*Rentals subject to availability. If there is equipment that you would like to rent that is not included, please contact Heatcon for additional options to facilitate your needs.

Calibration Services

Our calibration program is in accordance with ISO10012-1 and MIL-STD-45662A. All instruments used for calibration are certified and have traceability back to N.I.S.T. We provide calibration services for all Heatcon composite repair systems. Contact us at service@heatcon.com.

Services & Training

HEATCON COMPOSITE SYSTEMS®

Heatcon Training and Support

Heatcon offers comprehensive application, configuration, and operation training for many of our standard and advanced products. Courses can be held at your facility or at one of our factory locations. The training can be customized to suit your unique needs.

- Factory training includes:
- HCS9000C/HCS9000B/HCS9200B equipment operation and familiarization
- HCS9000C/HCS9000B/HCS9200B advanced functions and application
- Double Vacuum Debulk Chamber use and operation
- RepairClave use, operation, and maintenance
- HCS9300 series Network Controller configuration and operation
- HCS9306R Multi-zone Repair System configuration and operation
- HCS2041 Hot air system configuration and application
- HCS2044 Heat lamp operation

In addition to factory training, Heatcon has preferred partnerships with training organizations specializing in composite repair. If you are interested in pursuing more in-depth training on composite repair processes & procedures, please contact us so we may refer you to recommended training facilities and schools.

Services & Training

For more information call: USA/ASIA +1 (206) 575-1333 • UK +44 (0) 1480-410740 • info@heatcon.com

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Don't see what you need? Call us anyway. If we can't supply it, we will helpfully recommend someone who can.

www.heatcon.com

Heatcon specializes in helping companies who use industrial heaters, sensors and controls. Contact us to solve your manufacturing problem. We can assist you by providing an extensive selection of products combined with application expertise in many industries.

When you use Heatcon as a supplier, you have local access to worldwide companies with the latest innovations, the highest quality products, and efficient material distribution channels.
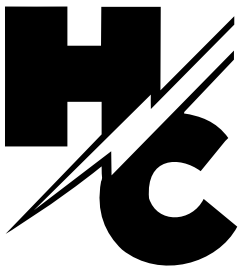
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