

# HAWK SYSTEM™

## Technical Data Sheet Epoxy Resin System *Building, Bonding, Repairing*

Revision date: January 2014

### Construction and Repairs

- Fiberglass Construction & Repairs
- Home Construction & Repairs
- Bonds to Most Surfaces including Wood, Fiberglass, Metals, Foam, Plastic and Fabrics



### PRODUCT DESCRIPTION

HAWK SYSTEM Epoxy Resin System is a 100% clear, low-viscosity, low-blush system designed for ease of use in the widest variety of construction and repair projects.

The flexibility of HAWK SYSTEM lies in its huge range of CATALYST and FILLERS to adapt to any situation. If you need a fast cure due to schedule constraints or if you need a very thick fairing compound, HAWK SYSTEM has the situation covered. After the application is cured, it can be sanded into fine tuned shape for the highest quality finish.

With it's ease of use, thin layer roll out capabilities and low blush, HAWK SYSTEM is the easy choice for all epoxy resin projects.



### STEP 1 - EPOXY RESIN (CHOOSE SYSTEM SIZE)

**HS-15 Epoxy Resin** - a smooth, low-viscosity liquid epoxy resin. With a variety of Hawk System Catalysts, it can be cured under a wide range of temperatures and environmental conditions to form a high-strength plastic with superior moisture barrier characteristics.

Part #	Description	System Size
HS15-S1	Epoxy Resin Quart	System Size 1
HS15-S2	Epoxy Resin Gallon	System Size 2
HS15-S3	Epoxy Resin 5-Gallon	System Size 3
HS15-S4	Epoxy Resin Drum	System Size 4

Hawk System is available in four system sizes color coded on each label. Note: Mix ratios vary by catalyst. For optimal product utilization, be sure to choose the same System Size for both the resin and catalyst.

### STEP 2 - SELECT YOUR CATALYST

Resin/ Catalyst Advantages	Hawk System Catalyst	Minimum Recommended Temperature (°F)	Pot Life 100g @ 70°F	Working Time Thin Film*	Cure to Solid Thin Film*	Cure to Working Strength	Mix Ratio Resin/ Catalyst
For use in colder temperatures or when a fast cure is needed	<b>HS-25 Fast Cure Catalyst</b>	40	9-12 minutes	60-70 minutes	6-8 hours	1-4 days	5:1
For use in moderate temperatures	<b>HS-26 Slow Cure Catalyst</b>	60	20-25 minutes	90-110 minutes	10-15 hours	1-4 days	5:1
For use in clear coating, carbon fiber application or reduced blush in humid conditions	<b>HS-27 Clear Finish Catalyst</b>	60	22-27 minutes	110-130 minutes	12-18 hours	1-4 days	3:1
For use in the warmest conditions or when more time is needed for application	<b>HS-29 Ultra Slow Catalyst</b>	70	40-50 minutes	3-4 hours	20-24 hours	4-9 days	3:1

\*Epoxy cures faster at higher temperatures and in thicker applications.

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## Technical Data Sheet

### Epoxy Resin System

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#### HS-25 FAST CURE CATALYST

Designed for construction and repairs with superior adhesion, strength, filling, and moisture barrier qualities at cooler temperatures and for a fast cure speed at room temperatures.

##### PHYSICAL PROPERTIES OF CURED EPOXY

Specific gravity .....	1.13
Hardness (Shore D) ASTM D-2240 .....	83
Compression yield ASTM D-695 .....	12,400 psi
Tensile strength ASTM D638 .....	9,991 psi
Tensile elongation ASTM D-638 .....	4.5%
Tensile modulus ASTM D-638 .....	5.03E+05
Flexural strength ASTM D-790 .....	15,776 psi
Flexural modulus ASTM D-790 .....	4.94E+05
Heat deflection temperature ASTM D-648 .....	118°F
Onset of Tg by DSC .....	129°F
Ultimate Tg .....	142°F
Annular shear fatigue @ 100,000 cycles .....	10,600 lb

##### HANDLING CHARACTERISTICS

Mix ratio by volume (Mini Pump ratio) .....	5.0 : 1
Mix ratio by weight .....	5.3 : 1
Mix viscosity (at 72°F) ASTM D-2393 .....	975cps
Pot life (100g at 72°F) .....	9 to 12 minutes
Working time, thin film .....	*60 to 70 minutes
Cure to a solid, thin film .....	*6 to 8 hours
Cure to working strength .....	1 to 4 days
Minimum recommended temperature .....	40°F (4°C)

Part #	Description	System Size
HS25-S1	Fast Cure Catalyst 1/2-Pint	System Size 1
HS25-S2	Fast Cure Catalyst Quart	System Size 2
HS25-S3	Fast Cure Catalyst Gallon	System Size 3
HS25-S4	Fast Cure Catalyst 10-Gallon	System Size 4

#### HS-27 CLEAR FINISH CATALYST

Designed for very clear fiberglass cloth and coating applications with exceptional moisture barrier characteristics. Perfect for natural wood and carbon fiber clear coats with no blush. Longer working times in very warm temperatures.

##### PHYSICAL PROPERTIES OF CURED EPOXY

Specific gravity .....	1.10
Hardness (Shore D) ASTM D-2240 .....	84
Compression yield ASTM D-695 .....	11,000 psi
Tensile strength ASTM D638 .....	9,149 psi
Tensile elongation ASTM D-638 .....	4.7%
Tensile modulus ASTM D-638 .....	4.60E+05
Flexural strength ASTM D-790 .....	13,471 psi
Flexural modulus ASTM D-790 .....	4.32E+05
Heat deflection temperature ASTM D-648 .....	117°F
Onset of Tg by DSC .....	116°F
Ultimate Tg .....	116°F
Annular shear fatigue @ 100,000 cycles .....	9,600 lb

##### HANDLING CHARACTERISTICS

Mix ratio by volume (Mini Pump ratio) .....	3 : 1
Mix ratio by weight .....	3.6 : 1
Mix viscosity (at 72°F) ASTM D-2393 .....	760 cps
Pot life (100g at 72°F) .....	22 to 27 minutes
Working time, thin film .....	*110 to 130minutes
Cure to a solid, thin film .....	*12 to 18hours
Cure to working strength .....	1 to 4 days
Minimum recommended temperature .....	60°F (16°C)

Part #	Description	System Size
HS27-S1	Clear Finish Catalyst Quart	System Size 1
HS27-S2	Clear Finish Catalyst Half-Gallon	System Size 2
HS27-S3	Clear Finish Catalyst 1.5-Gallon	System Size 3
HS27-S4	Clear Finish Catalyst 18-Gallon	System Size 4

#### HS-26 SLOW CURE CATALYST

Designed for high-strength bonding, coating and fiberglass applications with excellent moisture barrier characteristics when slower cure speed is required and during high temperatures.

##### PHYSICAL PROPERTIES OF CURED EPOXY

Specific gravity .....	1.12
Hardness (Shore D) ASTM D-2240 .....	82
Compression yield ASTM D-695 .....	12,500 psi
Tensile strength ASTM D638 .....	8,656 psi
Tensile elongation ASTM D-638 .....	4.6%
Tensile modulus ASTM D-638 .....	4.50E+05
Flexural strength ASTM D-790 .....	13,485 psi
Flexural modulus ASTM D-790 .....	4.11E+05
Heat deflection temperature ASTM D-648 .....	123°F
Onset of Tg by DSC .....	126°F
Ultimate Tg .....	139°F
Annular shear fatigue @ 100,000 cycles .....	10,100 lb

##### HANDLING CHARACTERISTICS

Mix ratio by volume (Mini Pump ratio) .....	5.0 : 1
Mix ratio by weight .....	5.7 : 1
Mix viscosity (at 72°F) ASTM D-2393 .....	725cps
Pot life (100g at 72°F) .....	20 to 25 minutes
Working time, thin film .....	*90 to 110 minutes
Cure to a solid, thin film .....	*10 to 15 hours
Cure to working strength .....	1 to 4 days
Minimum recommended temperature .....	60°F (16°C)

Part #	Description	System Size
HS26-S1	Slow Cure Catalyst 1/2-Pint	System Size 1
HS26-S2	Slow Cure Catalyst Quart	System Size 2
HS26-S3	Slow Cure Catalyst Gallon	System Size 3
HS26-S4	Slow Cure Catalyst 10-Gallon	System Size 4

#### HS-29 ULTRA SLOW CURE CATALYST

Designed for construction and repairs with superior adhesion, strength, bonding, filling, and moisture barrier qualities at higher temperatures and for a very slow cure speed at room temperatures.

##### PHYSICAL PROPERTIES OF CURED EPOXY

Specific gravity .....	1.10
Hardness (Shore D) ASTM D-2240 .....	82
Compression yield ASTM D-695 .....	13,000 psi
Tensile strength ASTM D638 .....	7,700 psi
Tensile elongation ASTM D-638 .....	4.6%
Tensile modulus ASTM D-638 .....	4.05E+05
Flexural strength ASTM D-790 .....	12,615 psi
Flexural modulus ASTM D-790 .....	4.0E+05
Heat deflection temperature ASTM D-648 .....	117°F
Onset of Tg by DSC .....	122°F
Ultimate Tg .....	130°F
Annular shear fatigue @ 100,000 cycles .....	9,900 lb

##### HANDLING CHARACTERISTICS

Mix ratio by volume (Mini Pump ratio) .....	3 : 1
Mix ratio by weight .....	3.6 : 1
Mix viscosity (at 72°F) ASTM D-2393 .....	650 cps
Pot life (100g at 72°F) .....	40 to 50 minutes
Working time, thin film .....	*3 to 4 hours
Cure to a solid, thin film .....	*20 to 24 hours
Cure to working strength .....	4 to 9 days
Minimum recommended temperature .....	70°F (21°C)

Part #	Description	System Size
HS29-S1	Ultra Slow Catalyst Quart	System Size 1
HS29-S2	Ultra Slow Catalyst Half-Gallon	System Size 2
HS29-S3	Ultra Slow Catalyst 1.5-Gallon	System Size 3
HS29-S4	Ultra Slow Catalyst 18-Gallon	System Size 4

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### STEP 3 - SELECT YOUR FILLER (OPTIONAL)

**HS-43 Light Density Adhesive Micro Fiber Filler** - Thickens to an off white color. Great for bonding many substrates, especially wood. The mixture also creates a multipurpose adhesive for many other substrates in addition to providing excellent substrate wetting and penetrating characteristics.

**HS-44 High Load Adhesive Fiber Filler** - Thickens to an off white color, creating an easy to use adhesive designed for bonding hardware and other applications with dissimilar materials. This mixture will maximize bond strength for anticipated high loads.

**HS-45 Bridging Adhesive Filler** - Thickens to a brown color, creating an easy to use adhesive with excellent gap filling and filleting qualities. This mixture blends with many different types of wood to allow for a natural looking fillet or gap fill.

**HS-46 Structural Adhesive Filler** - Thickens to an off white color, creating a general purpose thickening additive for bonding, gap filling and filleting. Mix to a workable consistency allowing sag-free and easy flow properties for vertical and overhead applications.

**HS-47 Light Density Fairing Filler** - Thickens to a reddish brown color, achieving an easy to sand and carve fairing compound while still remaining strong and light weight.

**HS-41 MicroSphere Fairing Filler** - Thickens to an off white color, creating a lightweight fairing compound for large areas. This product holds a feathered edge very well and is suitable for nearly every substrate.

### STORAGE/SHELF LIFE

Store at room temperature. Keep containers closed to prevent contamination. With proper storage, resin and hardeners should remain usable for many years. After a long storage, verify the metering accuracy of the pumps. Mix a small test batch to assure proper curing. Over time, HS-15 Resin will thicken slightly and will therefore require extra care when mixing. Repeated freeze/thaw cycles during storage may cause crystallization of HS-15 Resin. Warm resin to 125°F and stir to dissolve crystals. Hardener may darken with age, but physical properties are not affected by color. Be aware of a possible color shift if very old and new hardener are used on the same project.

