HAWK EPOXY™
Premium Quality

Technical Data Sheet
Epoxy Resin, Catalyst & Fillers

Building, Bonding, Repairing

Revision date: March 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 EPOXY 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 EPOXY 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 EPOXY 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 EPOXY is the easy choice for all epoxy resin projects.

STEP 1 - EPOXY RESIN (CHOOSE SYSTEM SIZE)

R1 Epoxy Resin - a smooth, low-viscosity liquid epoxy resin. With a variety of Hawk Epoxy 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	Size
R1-S1	Epoxy Resin - 1 Quart	Size 1
R1-S2	Epoxy Resin - 1 Gallon	Size 2
R1-S3	Epoxy Resin - 4.35 Gallon	Size 3
R1-S4	Epoxy Resin Drum - TBD	Size 4

Hawk Epoxy 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 Size for both the resin and catalyst. Refer to page 4 for Directions for Use.

STEP 2 - SELECT YOUR CATALYST

Resin/ Catalyst Advantages	Hawk Epoxy Catalyst	Minimum Recommended Temperature (˚F)	Pot Life @ 70˚F	Working Time Thin Film*	Cure to Solid Thin Film*	Cure to Working Strength	Mix Ratio Resin/ Catalyst
For use in the warmest conditions or when more time is needed for application	**C1 Ultra Slow Catalyst**	70	40-50 minutes (4 oz.)	3-4 hours	20-24 hours	4-9 days	3:1
For use in moderate temperatures	**C2 Slow Cure Catalyst**	60	20-25 minutes (6 oz.)	90-110 minutes	10-15 hours	1-4 days	5:1
For use in colder temperatures or when a fast cure is needed	**C3 Fast Cure Catalyst**	40	9-12 minutes (6 oz.)	60-70 minutes	6-8 hours	1-4 days	5:1
For use in clear coating, carbon fiber application or reduced blush in humid conditions	**C5 Clear Finish Catalyst**	60	22-27 minutes (4 oz.)	110-130 minutes	12-18 hours	1-4 days	3:1

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

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C1 ULTRA SLOW CURE CATALYST/R1 RESIN

Designed for use with HAWK EPOXY R1 Resin for construction and repairs with superior adhesion, strength, bonding, filling, and moisture barrier qualities at higher temperatures and for an ultra slow cure. **Do not use under Sea Hawk marine wood varnish.**

CHARACTERISTICS AND PROPERTIES

Mix by volume:.....3.0 : 1
Mix by weight:.....3.6 : 1
Viscosity (at 77°F): .....65—75 KU
Pot life (4oz at 77°F):.....40-50 mins
6 mils DD tack/ not wet (77°F):.....3-4 Hrs
6 mils DD cured (77°F):.....20-24hrs
6 mils DD Full cured (77°F): 4-9days
Minimum T at application:.....70°F (21°C)
Weight/gallon (lb/gal):.....9.16
Hardness (Shore D):.....82
Peak Load (lbf): 486.1
Peak Stress (MPa): 53.5
Modulus (MPa): 3048
Chord modulus Strain 1-2 (MPa):..... 2796
Elongation at peak (in):.....0.066
Elongation ar peak (%):.....3.3
Elongation at Break (%):.....5.2
Energy to break (J):.....4.3
Break Stress (MPa): 43.9

Part #	Description	System Size
C1-S1	Ultra Slow Catalyst Quart - .66 Pint	Size 1
C1-S2	Ultra Slow Catalyst - .33 Gallon	Size 2
C1-S3	Ultra Slow Catalyst - 1.45 Gallon	Size 3
C1-S4	Ultra Slow Catalyst - TBD	Size 4

C2 SLOW CURE CATALYST/R1 RESIN

Designed for use with HAWK EPOXY R1 Resin for construction and repairs with superior adhesion, strength, bonding, filling, and moisture barrier qualities at higher temperatures and for a slow cure. **Do not use under Sea Hawk marine wood varnish.**

CHARACTERISTICS AND PROPERTIES

Mix by volume:.....5.0 : 1
Mix by weight:.....5.3 : 1
Viscosity (at 77°F): .....70—75 KU
Pot life (6oz at 77°F):.....20-25 mins
6 mils DD tack/ not wet (77°F):..... 90-110 mins
6 mils DD cured (77°F):.....10-15 hrs
6 mils DD Full cured(77°F):.....1-4 days
Minimum T at application:.....60°F (16°C)
Weight/gallon(lb/gal):..... 9.33
Hardness (Shore D):.....82
Peak Load (lbf): 429.6
Peak Stress (MPa): 59.7
Modulus (MPa): 3318
Chord modulus Strain 1-2 (MPa):.....3106
Elongation at peak (in):.....0.064
Elongation at peak (%): 3.2
Elongation at Break (%):.....4.6
Energy to break (J):.....3.3
Break Stress (MPa): 48.2

Part #	Description	System Size
C2-S1	Slow Cure Catalyst - .4 Pint	Size 1
C2-S2	Slow Cure Catalyst - .8 Quart	Size 2
C2-S3	Slow Cure Catalyst - .87 Gallon	Size 3
C2-S4	Slow Cure Catalyst - TBD	Size 4

C3 FAST CURE CATALYST/R1 RESIN

Designed for use with HAWK EPOXY R1 Resin for construction and repairs with superior adhesion, strength, bonding, filling, and moisture barrier qualities at cooler temperatures and for a fast cure. **Do not use under Sea Hawk marine wood varnish.**

CHARACTERISTICS AND PROPERTIES

Mix by volume :.....5.0 : 1
Mix by weight: .....5.3 : 1
Viscosity (at 77°F) : .....75—85 KU
Pot life (6 oz at 77°F):.....9-12 mins
6 mils DD tack/ not wet (77°F):.....60-70 mins
6 mils DD cured (77°F):.....6-8 hrs
6 mils DD Full cured (77°F): .....1-4 days
Minimum T at application:.....40°F (4°C)
Weight/gallon (lb/gal) :..... 9.41
Hardness (Shore D):.....83
Peak Load (lbf): 650.6
Peak Stress (MPa): 68.9
Modulus (MPa): 3776
Chord modulus Strain 1-2 (MPa):.....3472
Elongation at peak (in):.....0.067
Elongation at peak (%) 3.4
Elongation at Break (%):.....4.5
Energy to break (J):.....4.9
Break Stress (MPa): 61.6

Part #	Description	System Size
C3-S1	Fast Cure Catalyst - .4 Pint	Size 1
C3-S2	Fast Cure Catalyst - .8 Quart	Size 2
C3-S3	Fast Cure Catalyst - .87 Gallon	Size 3
C3-S4	Fast Cure Catalyst - TBD	Size 4

C5 CLEAR FINISH CATALYST/R1 RESIN

Designed for use with HAWK EPOXY R1 Resin 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. **May be used under Sea Hawk marine wood varnish.**

CHARACTERISTICS AND PROPERTIES

Mix by volume:..... 3.0 : 1
Mix by weight:.....3.6 : 1
Viscosity (at 77°F): ..... 70—80 KU
Pot life (4oz at 77°F):.....22-27 mins
6 mils DD tack/ not wet (77°F):.....110-130 mins
6 mils DD cured (77°F):.....12-18 hrs
6 mils DD Full cured (77°F):.....1-4 days
Minimum T at application:.....60°F (16°C)
Weight/gallon (lb/gal):..... 9.16
Hardness (Shore D):.....84
Peak Load (lbf): 596.4
Peak Stress (MPa): 63.1
Modulus (MPa): 3397
Chord modulus Strain 1-2 (MPa):.....3188
Elongation at peak (in):.....0.067
Elongation at peak (%): 3.3
Elongation at Break (%):.....4.7
Energy to break (J):.....4.6
Break Stress (MPa): 49.5

Part #	Description	System Size
C5-S1	Clear Finish Catalyst - .66 Pint	Size 1
C5-S2	Clear Finish Catalyst - .33 Gallon	Size 2
C5-S3	Clear Finish Catalyst - 1.45 Gallon	Size 3
C5-S4	Clear Finish Catalyst - TBD	Size 4

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STEP 3 - SELECT YOUR FILLER (OPTIONAL)

HAWK EPOXY FILLER SELECTION GUIDE

MORE STRENGTH ← Harder to Sand ····· Easier to Sand → LESS STRENGTH

Use	F1	F2	F3	F4	F5	F6
Bonding Hardware	🦅🦅🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅		
General Bonding	🦅🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅		
Bonding with fillets	🦅🦅🦅	🦅🦅🦅🦅🦅	🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅🦅	
Laminating	🦅🦅🦅	🦅🦅🦅🦅	🦅🦅🦅🦅🦅	🦅🦅🦅	🦅🦅🦅	
Fairing					🦅🦅🦅🦅	🦅🦅🦅🦅🦅

Filler suitability:

🦅🦅🦅🦅🦅 = Best 🦅🦅🦅🦅 = Better 🦅🦅🦅 = Good No Claw = Do Not Use

F1 High Load Adhesive Fiber Filler - Thickens to a light grey 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.

F2 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.

F-3 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. Increases impact and abrasion resistance.

F4 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.

F5 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.

F6 MicroSphere Fairing Filler - Thickens to a white color, creating a lightweight fairing compound for small to large areas. This product holds a feathered edge very well and is suitable for nearly every substrate. This closed celled structure can also be used for increased acoustic and thermal insulation.

EPOXY FILLER DIRECTIONS FOR USE

1. Mix HAWK EPOXY resin and catalyst thoroughly as stated in the HAWK EPOXY RESIN instructions.
2. Mix the FILLER thoroughly. Then blend in small amounts of FILLER to the mixed resin and catalyst until the desired thickness is achieved.

Depending on use, mixing in more or less of the filler material will allow multiple uses with the same filler. For example:

- For laminating flat panels or bonding large surfaces, filler should be mixed to a pourable or injectable consistency.
- For general bonding, filleting or bonding hardware, mix material to a slightly to moderately thick consistency.
- If you desire a zero-sag effect, mix to a very thick consistency. This can act as a filler for uneven surfaces without worry of sag.
- To ensure maximum adhesion and strength, use only enough filler to avoid sagging or running. When using a resin/catalyst/filler mixture for bonding, a small amount of mixture should squeeze out from between the two items that are being bonded to each other when they are pushed together.

Increasing the filler to resin/catalyst ratio will deduct strength and increase sandability.

NOTE: Please refer to the FILLER SELECTION CHART above for specific uses applicable to each filler.

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RESIN & CATALYST DIRECTIONS FOR USE

Preparation: Apply over clean, dry surfaces. Remove all grease, oil, wax, or other foreign material by solvent, such as, S-80 Wax N Grease Killer or detergent washing. (SSPC-SPI). Non-porous substrates must be sanded to create a rough surface for stronger bonding and adhesion. Remove all dust prior to application.

DISPENSING: Do not adjust ratio (R1 Epoxy Resin/Catalyst) to alter cure time. Use the exact mixing ratio as described on page 2 of this document or on the Catalyst Label. Ensure accurate measuring for maximum properties. Particular emphasis was placed in the overall strength and toughness of the cured system. Dispense into a clean, non-porous, straight-sided plastic or metal container. Foam and glass container are unsuitable.

Dispensing with Hawk Pumps: If using the calibrated 30-KT Hawk Pumps, the correct ratio will be dispensed by one pump push of Catalyst and one pump of R1 Resin to equal the correct ratio. See the 30-KT Hawk Pump directions for more details.

MIXING: Stir R1 Epoxy Resin and desired Catalyst well ensuring that all materials from sides and bottom of container are thoroughly mixed for one to two minutes. Then include any Hawk Epoxy Filler (F1, F2, F3, F4, F5, F6) if desired depending on application. Allow for adequate ventilation.

Application Tip: Unless you plan on overcoating Hawk Epoxy (when color variations may not matter), use the same age Hawk Epoxy Catalyst on a particular project to ensure color consistency.

HEAT WARNING! Curing epoxy generates heat and should be mixed in a wide shallow container to increase the surface area of the mixture. Only combine R1 Resin and Catalyst in small batches to reduce to avoid excessive exothermic heat that could shorten the working time melting or igniting the container or flammable materials and damage the skin.

HIGHER TEMPERATURE WARNING: R1 Epoxy Resin will cure faster in warmer temperatures. DO NOT alter mix ratio to compensate for temperature. Doing so could damage the cure and reduce the strength of the epoxy

LOWER TEMPERATURE WARNING: Extra cure time is required as ambient temperature decreases. Using R1 Epoxy Resin below 40°F (4°C) could damage the cure and reduce the strength of the epoxy. DO NOT alter mix ratio to compensate for temperature.

CLEANUP: Clean up R1 Epoxy Resin, and mixed epoxy resin and Catalyst with S-80 Wax N Grease Killer, acetone, or MEK.

SPILL/LEAK: Use an inert absorbent to complete clean-up. This material reacts with oxidizing materials. Take up carefully to avoid heat and sparks.

STORAGE: Storage temperature: 40°-90°F (32°-4°C). Keep containers sealed and in a well-ventilated area. Hawk Epoxy Catalysts, (C1, C2, C3 and C5) will darken in color with extended storage times. However, this color change will in no way affect the physical characteristics of the finished project. Hawk Epoxy R1 Resin may thicken with extended storage times and may require thorough mixing before combining with Hawk Epoxy Catalysts. If Hawk Epoxy R1 Resin or a Hawk Epoxy Catalyst goes through extreme hot and cold temperatures, 32˚F or below, it may get hard and mineralized in appearance. The mineralization will in no way affect the physical characteristics of the finished product. To eliminate mineralization, heat product to no less than 110˚F for 1-2 hours.

Hawk Epoxy components have an extended shelf life that will last for several years. After extended storage, be sure to mix a small amount of Hawk Epoxy R1 Resin and Hawk Epoxy Catalyst (at correct ratio) and ensure proper curing before proceeding to a larger scope project.

HAWK EPOXY GROUP SIZE AND COATING COVERAGE

Saturation coat porous surfaces

PACKAGE SIZE 1 ..... (R1 : C3/C2)..... 93–108 ft2
PACKAGE SIZE 1 ..... (R1 : C5/C1)..... 93–108 ft2

PACKAGE SIZE 2 ..... (R1 : C3/C2)..... 353–408 ft2
PACKAGE SIZE 2 ..... (R1 : C5/C1)..... 373–433 ft2

PACKAGE SIZE 3 ..... (R1 : C3/C2)..... 1533–1788 ft2
PACKAGE SIZE 3 ..... (R1 : C5/C1)..... 1678–1958 ft2

Buildup coats non-porous surfaces

PACKAGE SIZE 1 ..... (R1 : C3/C2)..... 123–138 ft2
PACKAGE SIZE 1 ..... (R1 : C5/C1)..... 123–138 ft2

PACKAGE SIZE 2 ..... (R1 : C3/C2)..... 465–523 ft2
PACKAGE SIZE 2 ..... (R1 : C5/C1)..... 493–553 ft2

PACKAGE SIZE 3 ..... (R1 : C3/C2)..... 2043–2303 ft2
PACKAGE SIZE 3 ..... (R1 : C5/C1)..... 2238–2523 ft2

Hawk Epoxy Uses:

- Fiberglass Construction & Repairs
- Home Construction & Repairs
- Boat manufacturing & Repairs
- Bonds to Most Surfaces including Wood, Fiberglass, Metals, Fabrics, and various Foams and Plastics

Hawk Epoxy Premium Quality:

- High Tensile Strength
- Strong and Durable
- Easy to Use
- Excellent Bonding Strength
- Water Resistant
- Cost Effective

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