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Technical Data Sheet

Epoxy Resin, Catalyst & Fillers

Building, Bonding, Repairing

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 (Pa): | 2796 |
| Elongation at peak (in): | 0.066 |
| Elongation at 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 |

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 (Pa): | 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 |

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 (Pa): | 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 |

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 (Pa): | 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 |

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

HAWK EPOXY™

Technical Data Sheet Epoxy Resin, Catalyst & Fillers *Building, Bonding, Repairing*

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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Building, Bonding, Repairing

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 Sea Hawk 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 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