

RSN EKS White/HRD XCC

Rigid, Room temperature curing, Epoxy Casting Compound

Typical Properties

(Not for specification purposes. All tests run at 25°C unless otherwise noted)

RSN EKS White / A-side Properties:

Appearance	Visual	White Opaque liquid
Specific Gravity	ASTM-D-1475	1.79 g/cc
Viscosity	ASTM-D-2393	35,000 cP
Flash Point, PMCC		> 94°C

HRD XCC / B-side Properties:

Appearance	Visual	Clear, light amber liquid
Specific Gravity	ASTM-D-1475	0.96 g/cc
Viscosity	ASTM-D-2393	450 cP
Flash Point, Closed cup	ASTM D-92	52°C

Mix Ratio:

Parts by weight (volume) 100A : 12B (100A:22B)

Mixed Properties:

Initial Viscosity at 75°F	ASTM-D-2393	14,000cP
Pot life		141 minutes

Recommended Cure Schedules:

24-48 hours at 25°F or 3-6 hours @ 65 °F.

Please note: any cure schedule selected for use should be confirmed through testing as being appropriate for your particular processing methods and for your intended application.

Cured Properties (cured 7 days at 25°C)

Appearance	Visual	White
Specific Gravity	ASTM-D-792	1.75 g/cc
Shore Hardness	ASTM-D-2240	91D
Compressive Modulus		947,321
Compressive Strength	ASTM-D-635	14,016 psi
Linear shrinkage	ASTM D-2566	0.003%
Glass Transition	Perkin Elmer	73°C
Temperature (Tg) by DMA	Appl. Cast# 20	
Dielectric Strength	ASTM-D-149	400 volts/mil
Coefficient of thermal Expansion (CTE) (per °C)	ASTM-D-150	34.6 x 10 ⁻⁶

RSN EKS White with HRD XCC is a general purpose, room temperature curing epoxy casting system appropriate for many industrial applications. It is easily mixed by hand or with mechanical agitation and cures to a rigid solid with a very low coefficient of thermal expansion.

The formulation of this system has been optimized to minimize the shrinkage during curing and to reproduce fine details accurately. For these reasons RSN EKS White with HRD XCC is often used to produce castings that exhibit exceptionally accurate reproduction of the details from the master model against which they are cast.

Suggested Applications:

- Vulcanizing masters
- Checking fixtures
- Holding fixtures
- Tracing dies

Benefits:

- Very low shrinkage during cure
- Exceptional reproduction of details
- Highly compressive strength and surface hardness
- Low coefficient of thermal expansion

Storage Guidelines:

Store this material in a clean, dry environment in its tightly closed original container. These products are not considered especially temperature sensitive, but should ideally be stored at temperatures between 18-30°C (64-86°F). Under these conditions the products will have a minimum shelf-life of 12 months from the date of shipment. The RSN EKS White is a filled material and like all mineral filled epoxies prior to use.

Processing Guidelines:

This system can be mixed manually or using mechanical agitation. Whatever method is chosen, be sure to accurately weigh both the resin and the hardener prior to mixing and to ensure the correct mix ratio is used.

If mixing manually, mix for at least 2 minutes and be sure to scrape the walls and bottom of the mixing vessel to be sure that all of the material is thoroughly mixed. To ensure a void free casting, vacuum de-air the mixture after thorough mixing. A vacuum of 28 inches of mercury is generally sufficient to remove the vast majority of entrapped air within 5-10 minutes.

If processing in a humid environment, it may be advisable to fully cure within an oven at 40-60°C in order to prevent water absorption that can lead to hazy streaks on the surface of the casting. Mixing or curing the material at temperatures less than 18°C (65°F) may lead to excessively long curing or demolding times.

When cured for approximately 24 hours at 25°C or for 3-6 hours at 65°C, this system will normally set up to a rigid, demoldable state. Additional time at room temperature or at elevated temperatures may be required to achieve a full cure.

If you are using an elevated temperature cure, be sure to add to the desired time at the elevated temperature enough time for the oven and parts to heat up to the desired temperature and enough time for the parts to slowly cool back down to room temperature. Do not force cool as the thermal shock can warp or damage the material.

When curing with heat, a uniform heat distribution is desirable. Concentrated or uneven heat such as from a heat lamp can cause distortions and warpage. In general an elevated temperature cure will cause more shrinkage than a room temperature. This phenomenon can be minimized by allowing the material to gel at ambient conditions over night before post curing it at an elevated temperature.

Handling Precautions:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

Personal Hygiene:

RSN EKS White

WARNING! Causes skin and eye irritation. May cause allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling

HRD XCC

DANGER! Combustible. Corrosive - causes eye & skin burns. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or mist. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling

Nuisance dust may be generated when sanding or cutting this cured system.

First Aid

In case of contact:

Skin - Wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Discard contaminated shoes and other articles made of leather

Eyes - Flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person

Disclaimer:

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