

Duct 2.5 Z RED/HRD 41

Electrically & Thermally Epoxy Adhesive System

Typical Properties

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

Resin / A-side Properties:

Appearance	Visual	Thick tan paste
Specific Gravity	ASTM D-792	2.15 g/cc
Viscosity	ASTM-D-2393	174,000 cP
Flash point, closed cup	ASTM D-92	248°C (478°F)

Hardener/ B-side Properties:

Appearance	Visual	Thick paste silver
Specific Gravity	ASTM-D-1475	1.92 g/cc
Viscosity	ASTM-D-2393	272,000 cP
Flash Point, closed cup	ASTM D-92	150°C (302°F)

Mix Ratio:

Parts by weight 1A : 1B (80:100 by volume)

Mixed Properties:

Initial Viscosity at 25°C	ASTM-D-2393,	200,000cP
at 40°C		120,000 cP
Sunshine Gel time, 10g at 40°C		100 minutes

Recommended Cure Schedules:

24-48 hrs at 25°C or 1-2 hrs at 65°C

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	Silvery gray
Specific Gravity	ASTM D-1475	2.08 g/cc
Shore Hardness	ASTM D-2240	85D
Linear Shrinkage	ASTM D-792	0.45%
Moisture absorption 30 days @27°C	ASTM D-570	0.09%
Thermal conductivity	ASTM D-638	1.2 W/mK
Glass Transition Temp (T _g)	Perkin Elmer Appl. Cast #20	110°C
Coefficient of thermal expansion (ppm / °C)	ASTM E-381	
Alpha 1		57.2
Alpha 2		91.9
Volume. resistivity	ASTM D-257	0.01 Ω-cm
Lap Shear strength, AL-to-AL	ASTM D-1002	2,600psi

Suggested Applications:

- Electrical and Thermal Conductivity Bonds between metals, plastic and other materials
- EMI / RF protection & dissipation
- Solder replacement

Benefits:

- Easy to mix & apply paste featuring a 1:1 mix ratio
- Electrical and Thermal Conductivity
- Resistant to moisture and humidity
- Excellent bond strength to metals & many other common materials

Storage Guidelines:

Store this material in a clean, dry environment in its tightly closed original container. These products are not considered 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. Material may separate during storage. Re-mix thoroughly in the original container prior to use.

Processing Guidelines:

Mix each component in its own container prior to use to re-disperse any settled material. Then weigh the desired amount of resin into a mixing container whose weight has been tared. If material has been heated, allow to cool to 25 ± 5°C or 77 ± 9°C before continuing. The pot life of mixed material will be shortened considerably if warmed material is used.

Weigh the desired amount of hardener into mixing container with the resin. Mix thoroughly by means of mechanical mixer or manual stirring. Check for uniform color as a sign of complete mixing.

Vacuum de-airing is recommended to remove any entrapped air from the mixing procedure. To deair most products, 1-2 minutes under full vacuum is recommended for each quart of mixed material. After mixing and de-gassing, apply the adhesive to surfaces to be bonded using a spatula or other tools. Clean, dry surfaces will produce the best bonds.

To reduce the cure time, allow the material to gel at room temperature (about 1-2 hours) and then post-cured for 1-2 hours at 60-80°C.

DUCT 2.5 RED / HRD 41 is a 100% solids silver filled epoxy adhesive that provides excellent electrical and thermal conductivity as well as exceptional bond strength. The material is easy to process and ideal for many applications including EMI and RFI shielding and static dissipation.

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:**DUCT 2.5 Z RED**

CAUTION! May cause eye irritation. Prolonged or repeated skin contact may cause irritation, and may cause skin reaction. Harmful if inhaled, if swallowed. In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid contact with eyes and prolonged or repeated skin contact. Do not inhale mist. Use with adequate ventilation. For industrial use only.

HRD 41

CORROSIVE! Causes severe eye and skin burns and possible allergic skin reaction. Vapor irritating to eyes, skin and nasal mucous membranes. Harmful if swallowed. In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid contact with eyes and prolonged or repeated skin contact. Do not inhale mist. Use with adequate ventilation. For industrial use only.

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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statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

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