



DATA SHEET NO. 3700-632

REZI-WELD™ 1000 Multi-Purpose, Medium Viscosity Construction Epoxy

DESCRIPTION

REZI-WELD 1000 is a medium-viscosity, two-component, construction-grade structural epoxy adhesive. It is moisture-insensitive and resistant to many chemicals. High modulus, high strength REZI-WELD 1000 is colour coded to assure proper mixing and is self-levelling and easy to apply.

USES

As a neat mix, REZI-WELD 1000 is used to bond hardened concrete to fresh or hardened concrete. It can also be used to bond metals and other materials to hardened concrete. REZI-WELD 1000 is also used to secure metal anchors, bolts, rebar, and dowels in concrete. Mixed with sand or aggregates, REZI-WELD 1000 may be used to patch spalls or defects in concrete. A thin film coating sprinkled with sand or grit becomes a durable non-skid, interior topping.

FEATURES/BENEFITS

- Offers high modulus, high strength, and self-levelling characteristics.
- Resists many industrial chemicals and is moisture insensitive.
- Easy to apply ... may be sprayed.
- Furnished in unique, colour-coded, unitized, pre-measured packaging to assure proper mixing ... eliminates mishandling and mismatching components.
- May be extended with sand or aggregates to patch minor spalls and defects in concrete.
- Provides a non-skid interior topping when sprinkled with sand or grit.

PACKAGING

0.95 Litre (1 U.S. Quart) Unit
3.8 Litre (1 U.S. Gallon) Unit
7.58 Litre (2 U.S. Gallon) Unit
(37.9 Litre) (10 Gallon) Unit

COVERAGE

3.8 litre (1 U.S. gallon) neat yields 3785 cm³ (231 cubic inches).

SHELF LIFE

One year when stored in unopened containers in dry conditions. Store between 4.4° - 35° C (40° - 95° F). Do not store product outside.

SPECIFICATIONS

- AASHTO M 235 Types I, II, IV & V, Grade 2, Classes B & C
- ASTM C 881 Types I, II, IV & V, Grade 2, Classes B & C
- Agriculture and Agri-Food Canada accepted

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TECHNICAL DATA

The following physical properties were determined at a 1:1 mix ratio of A:B by volume, cured at 25° C (77° F) and 50% RH.

Test Method	Actual	Required per ASTM C 881-99, Type IV
Gel Time Per ASTM C 881-99 ¹	37 minutes	Minimum 30 minutes
Viscosity Per ASTM D 2393 Mixed	3,500 cps	Maximum 10,000 cps
Compressive Strength Per ASTM D 695-96 @ 1 day @ 7 days ¹	70 MPa (10,000 psi) 79 MPa (12,500 psi)	Not Required Minimum 70 MPa (10,000 psi)
Compressive Modulus Per ASTM D 695-96 ¹ @ 7 days	3,655 MPa (530,000 psi)	Minimum 1,400 MPa (200,000 psi)
Slant Shear Bond Strength Per ASTM C 882 ¹ , Moist Cured @ 2 days (Old to Old Concrete) @ 14 days (Old to Old Concrete) @ 14 days (New to Old Concrete)	8.6 MPa (1,250 psi) 13.1 MPa (1,900 psi) 14.5 MPa (2,100 psi)	Minimum 7.0 MPa (1,000 psi) Minimum 10.0 MPa (1,500 psi) Minimum 10.0 MPa (1,500 psi)
Tensile Strength Per ASTM D 638-98 ¹ @ 7 days	51 MPa (7,250 psi)	Minimum 48 MPa (7,000 psi)
Tensile Elongation Per ASTM D 638-98 ¹ @ 7 days	1.5%	Minimum 1%
Heat Deflection Temperature Per ASTM D 648-98 ¹ @ 7 days	57° C (135° F)	Minimum 50° C (120° F)
Linear Coefficient of Shrinkage Per ASTM D 2566 ¹ @ 7 days	0.002	Maximum 0.005
Water Absorption Per ASTM D 570-98 ¹ @ 7 days	0.41% w/w	Maximum 1.0% w/w

Colour: Part A ... White Part B ... Black

Mix Ratio: 1:1 by volume

Pot Life: 35 - 45 minutes @ 25° C (77° F)

Cure Time: 7 days @ 25° C (77° F)

All technical data is typical information, but may vary due to testing methods, conditions, and operators.

¹ Independent reports are available upon request.

Continued over ...

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APPLICATION

Surface Preparation ... Mechanically abrade all surfaces to be bonded. All surfaces to be bonded must be free of standing water and completely clean of dirt, rust, curing compounds, grease, oil, paint, and unsound materials which would prevent a solid bond. Vacuum or blow dust away with oil-free, compressed air. Smooth surfaces require sanding or other mechanical abrasion. Exposed steel surfaces should be sandblasted and vacuumed clean; if not possible, degrease the surface and use sandpaper or a wire brush to reveal continuous, bright metal.

Mixing ... Condition all components to 15.6° - 29.4° C (60° - 85° F) for 24 hours prior to use. Use the double-boiler method or store material in a warm room prior to application. Pre-mix each component. Mechanically mix at slow speed (600 – 900 rpm) using a drill and Jiffy® Blade or drum mixer for three minutes or until completely mixed while scraping the sides to ensure complete blending of components. The mixed product should be uniform grey in colour and not show streaks. Avoid air entrapment. Mix only very small quantities by hand for a minimum of three minutes or until sufficiently blended together. Scrape sides of the container to ensure complete blending of the components. Mix only the amount of epoxy that can be applied within the product's pot life. Pot life will decrease as the ambient temperature and/or mass size increases.

Bonding Fresh Concrete to Hardened Concrete or Hardened Concrete to Concrete ... Use a stiff masonry brush or airless spray equipment to apply a layer of mixed epoxy to concrete surfaces. Application rate should be 2.09 – 2.45 m²/litre [(85 - 100 ft.²/U.S. gal. (20 mils)]. Place fresh or hardened concrete to mixed REZI-WELD 1000 prior to epoxy adhesive becoming tack-free. If REZI-WELD 1000 becomes tack-free prior to application of fresh or hardened concrete, consult a W. R. MEADOWS representative. NOTE: Cured concrete is defined as concrete that has achieved a minimum 80% of designed compressive strength.

Other Bonding ... To bond metal to concrete, apply, a layer of the adhesive at 2.09 – 2.45 m²/litre [(85 - 100 ft.²/U.S. gal. (20 mils)] to the prepared surfaces and join immediately. Clamping pressure beyond what will hold parts in place is not necessary.

Aggregates for Epoxy-Resin Mortars ... Combine clean, dry aggregate to freshly mixed epoxy in ratio of one part epoxy to 1 - 4 parts of dry, clean, graded aggregate by volume. A rotary drum mixer with a stationary paddle is recommended for blending aggregate and epoxy. Apply a thin coating of aggregate-free epoxy to the prepared surface as a primer. Patch thickness should not exceed 50.8 mm (2") per lift.

Metal Anchors in Preformed Holes in Concrete ... Pre-formed holes should be approximately 6.4 mm (1/4") larger in diameter than the anchor bolt diameter. The depth of the hole should be 10 – 15 times the bolt diameter. Fill the hole from the bottom up, about half way, with mixed epoxy and place the bolt, dowel, or rebar. Top off with more epoxy and finish. All anchoring or doweling configurations must be approved or designed by an engineer.

Interior Non-Skid Topping ... Apply mixed epoxy at a rate not to exceed 1.97 m²/L (80 ft.²/ U.S. gal.). Spread sand thinly over wet epoxy and embed the grains with a mohair roller. For heavy coverage, apply a layer of sand or grit over the epoxy and allow to set. Blow excess sand away. NOTE: REZI-WELD 1000 IS NOT TO BE USED AS A FLOOR COVERING OR PROTECTIVE TREATMENT.

CLEAN UP

Clean tools and equipment immediately with toluene or xylene. Clean equipment away from all ignition sources and avoid breathing vapours or allowing epoxy-containing solvent to contact skin. Should this material come in contact with the skin, wash thoroughly with soap and water, not solvent.

PRECAUTIONS

DO NOT DILUTE. Mix complete units only. Not recommended for use when the concrete temperature has been below 4° C (40° F) for the past 24 hours. Do not use to seal cracks under hydrostatic pressure. Do not warm epoxy over direct heat

HEALTH AND SAFETY

Unused epoxy will generate excessive heat, especially in large quantities. Unused epoxy should be mixed with dry sand in the container to help lower heat. Refer to Material Safety Data Sheet for complete health and safety information.

MASTERFORMAT NUMBER AND TITLE

Section 03 01 00 - Maintenance of Concrete

LEED INFORMATION

May help contribute to LEED credits:

- IEQ Credit 4.1: Low-Emitting Materials – Adhesives and Sealants
- MR Credit 2: Construction Waste Management
- MR Credit 5: Regional Materials

For most recent data sheet, further LEED information, and MSDS, visit www.wrmeadows.com.

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