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ABOWELD 8212-4 EPOXY SYSTEM

TDS 821221

Modeling Structural Adhesive Putty for Sculpturing, Repairs and Replacements In Ceramics, Stoneware, Pottery, Restoration, Archaeology, Art and Industry

2-Component Epoxy System with High Strength and No Shrinkage

SPECIFICATIONS:

ABOCAST 8212-4:	Resin	White	Thixotropic Paste	12.8 lbs/Gallon approximate
ABOCURE 8212-4:	Converter	Neutral	Thixotropic Paste	12.8 lbs/Gallon approximate
Proportioning:	Equal parts (by weight or volume) of ABOWELD 8212-4 and ABOCURE 8212-4 must be thoroughly mixed to start the hardening reaction.			
Pot Life:	About 2 hours (100 gms @ 77° F)			
Hardening Time:	4-12 hours @ 77° F, faster with heating, which can reduce the process to minutes: 11-15 minutes @ 150° F, faster at higher temperature. Thick sections harden faster than thin layers. Cold weather slows hardening (very slow under 15° F).			
Cure:	Full strength is reached after 2-4 weeks at room temperature, or in 1-4 hours @ 150°-220° F. Heat cure optimizes hardness, strength, heat and chemical resistance.			

CHARACTERISTICS:

- **Modeling-clay-like** putty that hardens without shrinking. It can built up several inches thick to build, model, patch or replace shapes or parts, pottery, vases, statues, marble, stairs, railings, stones, handles, knobs, and any structural or decorative elements. It hardens like ceramics, marble or rock.
- **It can be shaped by hand.** As its consistency was designed to be like modeling clay, it can be kneaded and shaped like it. As a normal precaution, the hands should be protected with disposable or other impervious gloves.
- **It does not slump or sag.** This property is essential in many cases in which the shape must remain unchanged while the mass hardens. Examples: horizontal extensions, handles for cups or vases, elongated straight or curved shapes.
- **It forms a permanent structural and dielectric** bond with ceramics, pottery, marble, glass, concrete, stones, masonry, fiberglass, metal, wood and most materials.
- **Stronger and more versatile than concrete, marble or pottery.** It can bear more than 10,000 pounds per square inch or more up to 200° F. It can stand more abuse and impact. Excellent where other materials cannot be used because of fragility, weight, color, lack of adhesion, heat resistance or workability.
- **It can be used for structural or decorative purpose.** It is tougher and more impact resistant than concrete and most ceramics. It can be colored, blended with inserts, pebbles, rods, wires and other reinforcing or decorative elements.
- **It self-repairing.** No ceramics, marble, or clay can offer this advantage. Any hardened object or part made with ABOWELD/ABOCURE 8212-4 can be repaired, added to, or reshaped by just adding a new mixed ABOWELD/ABOCURE blend. The new material welds permanently to the old.
- **Chemically resistant.** Unaffected by atmospheric conditions, water, alkalis, diluted acids, several solvents, common detergents, oils and greases.
- **Easy to color.** Its neutral white takes the color of any pigment or spirit satin it is mixed with. It is also available already colored: WHITE, BLACK, WHITE/BLACK (GRAY MIX), BUFF, BROWN, RED, YELLOW, GREEN, and custom colors.

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SUGGESTED USES:

- **MODELING.** It can be used the same as modeling clay, by hand (protected) or with any tool for sculpturing and shaping. Further, more than modeling clay, it offers the adhesion typical of epoxies: Shaping any part or object and welding in to another object (from vases to statues or tools) by simple contact.
- **RESTORATION AND REPAIRS.** Shaping handles, rims, missing or new parts for pottery and statues, and welding them to the originals by simple contact. Building up supporting pads under sculptures and structures, repairing all kind s of artifacts.
- **MUSEUM AND ARCHAEOLOGY WORK.** Delicate, reliable and painstaking restoration, reconstruction and repair work on priceless objects used to be possible only with special imported materials. The 8212-4 System now surpasses them in strength, dimensional stability, adhesion, heat and chemical resistance.
- **OVERSIZE OR SPECIAL HANDLES, KNOBS AND OTHER HOLDING DEVICES** for handicapped people. This application has become widely accepted for people with arthritis and similarly affecting diseases.

VARIANTS:

Variants for special application are custom-formulated as needed.

INSTRUCTIONS FOR USE

Surface Preparation. Dirty, dusty, greasy surfaces must be thoroughly cleaned to avoid adhesion failure. Sandblasting or sanding and roughening after washing and degreasing is recommended. In all cases, surfaces must be clean and sound.

Resin/Converter Mixing must be thorough, or “soft spots” will result. A rigid stick, paddle or a power mixer, are all adequate if used properly.

Pot Life is the time the blend remains workable, before hardening, in the mixing container. As the hardening reaction generates heat, which in turn accelerates the reaction, large, **bulky masses harden much faster** (as they retain the heat of reaction) than small masses or thin layers (from which heat dissipates).

Application is simple and requires no specialized tools or skills. The putty consistency of the A/B blend allows mixing and shaping by hand (glove-protected). Best results are obtained if the A/B blend is allowed to rest 20 minutes or longer after mixing. This renders the blend less sticky to the hand and stiffer (no slump at all). Talc, like baby powder, can be used on the hands to render handling even easier. Plastic film or contact paper can be stretched over the ABOWELD paste to spread it flat or to shape it around corners, edges, etc. Then, it is easily peeled from the ABOWELD when it hardens. Skilled operator can make any shape with only their fingers and simple tools.

Hardening, Cure, Temperature. The **hardening** process is chemical; it is not “drying”, as in conventional paint, or conventional cement or filler, from which solvents evaporates. **ABOWELD contains no solvent, water or other volatiles.** This is one of the reasons of its superiority and lack of appreciable shrinkage. Hardening may last from the pot-life time to over 10 times as long (the thinner the layer, the slower). **Heating accelerates the process** very much. At 300° F (from heat lamp, blow torch, space heaters etc.), for instance ABOWELD can be hardened in about 30-60 seconds. **Curing** (completion of the reaction and full development of all properties) continues for 2-4 weeks at room temperature, or hours with heat. High-temperature curing is unnecessary with most applications. For some technical requirements, however, it can be used to maximize strength, rigidity, heat and chemical resistance. **Cold retards hardening and curing.** Under 45° F the reaction is too slow and requires special accelerated formulations. **Viscosity** is reduce by heat and increased by cold. Thus, as a warmer ABOWELD adheres better because it flows and wets better.

The above information is the result of accurate laboratory and field tests. However, no guarantee, expressed or implied, is given, as uses and applications are beyond our control. Specifications are subject to state-of-the-art changes.