Wood & Stōne Company

Akabond Clear Epoxies

- *Akabond 600•FL*
- *Akabond 621•KG*
- *Akabond 631•PT*
- *Akabond 632•PT*

General Description

Akabond clear products are two-part, epoxy based adhesives and fillers ideal for use with light colored natural stones on both interior and exterior applications. They have excellent mechanical properties and very good color stability for exterior applications.

Characteristics

Akabond clear epoxy products are solvent free, two-component adhesives, with excellent freeze thaw durability. They are ideal for use with light colored stone and are excellent for structural repairs. They will bond stone to wood, metal, and other materials. **Akabond 600•FL** is a medium viscosity clear flowing epoxy with a consistency similar to a thick syrup. **Akabond 621•KG** is a high viscosity clear gel epoxy that is resistant to sagging. **Akabond 631•PT and 632•PT** are low viscosity clear epoxies that penetrate and structurally reinforce stone slabs.

Applications

Akabond clear epoxy products are ideal for light colored stones, especially granite and outdoor applications where stone will be bonded to other materials including concrete, glass, metal and wood. They are suitable for consolidating, crack repair, laminating slabs, filling or patching broken or chipped stones. Each product is suited for the following applications:

Akabond 600•FL - Clear Flowing Epoxy for light colored stone repair and bonding horizontal pieces. Fills cracks and holes. By adding stone dust a resin mortar can be made that is suitable for filling large areas.

Akabond 621•KG - Clear Gel Epoxy for light colored stone repair and bonding together horizontal pieces. Fills cracks and holes. By adding stone dust a resin mortar can be made that is suitable for filling large areas.

Akabond 631•PT - Clear Penetrating Epoxy ideal for consolidating stone or repairing fine cracks or fissures. Very low viscosity with high penetration that will structurally strengthen stone.

Akabond 632•PT - Clear Penetrating Epoxy ideal for consolidating stone or repairing cracks or fissures. This product has a faster curing time and is more suitable for wider cracks than 631•PT. Very low viscosity with high penetration that will structurally strengthen stone.

Please Note: Akabond Clear Epoxy products have very good color stability with a minimal tendency to yellow under direct UV exposure. They are ideal for exterior applications and especially light colored stone.

Precautions and Safety

Observe all safety measures as described on the container and on the product MSDS. Avoid contact with skin, eyes and respiratory system. Use protective gloves and always work in a well ventilated area.

Coloring

Akabond products are easily colored to match any stone using our **Epoxy Coloring Pastes**. The best shade can be obtained by mixing the product to a shade slightly darker than the actual stone color.

Directions for Use

Preparation

All surfaces must be dry and free of grease, oil, efflorescence and dust. *Akabond* products will bond to moist surfaces. However, a dry surface will provide the best results.

Application

If needed, **Epoxy Coloring Paste**, should be added to Resin "A" before mixing with Hardener "B". See chart for the correct mix ratio of resin "A" to hardener "B". Too much or too little hardener can significantly impact the bonding strength properties.

Ambient temperature also affects curing time. Warmer temperatures speed the curing process, while lower temperatures will slow the curing process. Minimum application temperature is 5°C (40°F).

These products should be mixed thoroughly until color is uniformly blended. At 20°C (68°F) the mixtures are workable for about 20 - 55 minutes (see physical properties table). *The product should not be worked once gelling has begun.* **Once the product becomes rubbery, excess material may be removed with a razor blade or chisel.**

When bonding stones, clamps and jigs should be used to ensure that a thin bond layer (less than .4 mm) is achieved, thereby providing the strongest bond.

After curing, the stone piece may be further processed without damaging the material.

Clean-Up

Unhardened products can be diluted with hydrocarbon compounds such as Xylene, Toluol and Cetone, Esters, and Alcohol. Tools should be cleaned immediately after use. After hardening, the products can only be cleaned with methylene chloride or burning.

Storage

Always keep the container tightly sealed when not in use, and never expose the hardener to temperatures in excess of 100° F.

Wood & Stone products are chemically inhibited to extend shelf life and improve consistency. Storage temperature, however, is an extremely important factor in maximizing the shelf life of these products. The materials should be stored in a cool environment (50° F) whenever possible and should never be exposed to direct sunlight.

If these storage procedures are followed, this product should have a usable shelf life of at least one (1) year.

Physical Properties

All data based on:
78° F (25°C) ambient temperature
Testing performed by:
Axson North America, Inc.

	Akabond 600•FL	*Akabond 621•KG*	*Akabond 631•PT*	*Akabond 632•PT*
Color After Curing	Clear	Translucent	Clear	Clear
Viscosity - Mixed Spindle @ speed	1,760 3 @ 10	600,000 7 @ 2.5	1,100 3 @ 50	240 3 @ 5
Mix Ratio	2 to 1 By volume	2 to 1 By volume	2 to 1 By weight	4 to 1 By weight
Pot Life In minutes using 150g of mix	20 - 30	20 - 30	40 - 50	10 - 20
Curing Time (Thin film) In hours	6 - 8	6 - 8	36 - 48	20 - 24
Hardening Time @ 78°F (25°C)	12 - 16	12 - 16	48	24
@ 122°F (50°C) @ 140°F (60°C)	slabs *not* prewarmed slabs prewarmed		6 4	4 2
Shrinkage	0%	0%	0%	0%
Sag Flow	Yes	No	Yes	Yes
Shore D Hardness	83	84	83	84
Tensile Strength (psi/MPa)	4,900 / 34	6,300 / 43	4,940 / 34	6,650 / 46
Tensile Modulus (psi/MPa)	483,200 / 3,332	592,300 / 4,084	459,900 / 4,084	498,800 / 3,440
Flexural Strength (psi/MPa)	13,000 / 89	10,500 / 72	7,900 / 54	10,870 / 72
Flexural Modulus (psi/MPa)	544,500 / 3,755	459,400 / 3169	446,500 / 3079	504,400 / 3478
Compressive Strength (psi/MPa)	14,900 / 103	14,400 / 99	11,500 / 79	13,180 / 91
Compressive Modulus (psi/MPa)	395,600 / 2,728	375,200 / 2,578	323,200 / 2,228	360,600 / 2,486

Manufactured and Supplied by

Axson North America, Inc.

AXSON®

Wood & Stone Products are sold throughout North America by reputable dealers specializing in the natural stone industry.

Phone
1•800•365•8191

Fax
1•800•638•1899

1611 Hults Drive
Eaton Rapids, MI 48827
http://www.axson-na.com