

RESOLCOAT 4090 AL

Hardener 4095 AL

Food - Grade Epoxy Coating

- EU REACH certified and FDA certified under 21 CFR 175.300
- Fast hardening in film
- Excellent chemical resistance
- Guarantees the respect of the taste and flavour of beverages contained



RESOLCOAT 4090 AL epoxy coating is formulated in replacement of older systems containing aromatic amines which can cause health problems among workers.

RESOLCOAT 4090 AL is a 100% dry extract anti-corrosion epoxy coating formulated to provide maximum resistance to chemicals agents. It is designed to be used as a protective liner for tanks and machinery in contact with food products.

This coating is **in compliance with FDA - CFR 175.300 for 8% Alcohol at 120°F (49°C) / 24h.**

The system has a short hardening time in film enabling fast applications and reduced down time of existing installations. It provides a smooth, non-porous **high gloss finish**.

4090 AL / 4095 AL is indicated for beverages applications. Unlike other formulas containing benzyl alcohol that transmits a sour almond taste to the foods & liquids in contact, this system guarantees a tasteless & odourless coating.

RESOLCOAT 4090 AL may be applied as a coating but also as laminating resin when thin glass reinforcements are necessary, specially in the case of tanks repairs.

It can be applied by brush roller or airless while guaranteeing low toxicity working conditions to the users.

On porous surfaces it is recommended to prime the surface with a coat of 150g/m² of 1010AD resin with 1015 hardener.

RESOLCOAT 4090 AL

Hardener 4095 AL

FDA - Food Grade Epoxy Coating

MIXING RATIO

System	4090 AL / 4095 AL
Mixing ratio by weight	100 / 15.5

The mixing ratio must be accurately followed. It is not possible to change the ratio, it would result in lower mechanical properties. The mixture should be thoroughly stirred to ensure full homogeneity. It is important to note that epoxy systems tend to heat up much faster in a pot than as a thin film. It is preferable to only mix the necessary amount usable within the given pot life. Keeping the mixture in flat open containers reduces the risks of exothermic reaction. Pouring the mix in a second mixing container to ensure perfect mixes is recommended (double potting).

APPLICATION

Although RESOLCOAT 4090AL hardens perfectly starting from temperatures of 50°F / 10°C, it is preferable to mix the resin component with the hardener close to 68°F / 20°C to ease the mixing and air releasing of the mix.

The standard procedure of working with epoxy coatings applies this system. The system can be applied by brush, roller, or airless gelcoater.

4090 AL has been formulated for application of 500µm without sag on vertical surfaces. 2 coats are recommended when applied on a porous or uneven surface.

Coverage: 0,67 kg/m² for a 500 µm thickness dry film per coat

Sagging limit on vertical surface: 500 µm

Over coating: Its fast drying time in film will enable **over coating** within 4h to 8 hours depending on the application temperature. Should over coating be done after 8 hours, deglazing the surface will be necessary.

Curing: 16 hours at 140°F / 60°C or 14 days at 73°F / 23°C for optimum chemical resistance.

RESOLCOAT 4090 AL may be applied on any type of substrates: wood, concrete, brick, composite, metal... as long as the surface is degreased and clean.

PHYSICAL CHARACTERISTICS

Visual aspect

4090 AL : thixotropic beige liquid

4095 AL : transparent liquid

Mix : beige gel

Density (ISO 1675, ±0.03)

References	4090 AL	4095 AL	Mix
Density at 73°F / 23°C	1.35	1.07	1.31

RESOLCOAT 4090 AL

Hardener 4095 AL

Viscosity (ISO 2555, ±15% tolerance)

References	4090 AL	4095 AL	Mix
Viscosity at 73°F / 23°C (mPa.s)	200 000	6 400	35 000

REACTIVITY

System	4090 AL / 4095 AL
Reactivity in air on 70mL (~4cm thickness) at 73°F / 23°C	2h52min
Time to increase viscosity : x2, x3, x5 times	1h45, 2h05, 2h25
Temperature at exothermic peak on 70mL at 73°F / 23°C	88.8°F / 31.8°C
Time at exothermic peak	2h15min
Reactivity in film of 2mm at 73°F / 23°C	2h10min

Reactivity measurements made on Trombotech®

CURING & POST-CURING

System	4090 AL / 4095 AL
T _G after 14 days at 73°F / 23°C	129°F / 54°C
T _G after 16h at 140°F / 60°C	172°F / 78°C

T_G measurements made on Kinetech® (DMA type)

MECHANICAL PROPERTIES

System	4090 AL / 4095 AL
Shore D hardness after 14 days at 73°F / 23°C	84
Shore D hardness after 16h at 140°F / 60°C	87

Hardness according to ISO 868

RESOLCOAT 4090 AL

Hardener 4095 AL

PACKAGING

Available kits :

- 1kg of 4090 AL + 0.155kg of 4095 AL
- 5kg of 4090 AL + 0.775kg of 4095 AL
- 25kg of 4090 AL + 3.875kg of 4095 AL

TRANSPORT & STORAGE

Shelf life is minimum one year in sealed containers as provided. Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area.

HEALTH & SAFETY

Skin contact must be avoided by wearing protective nitrile gloves & overalls or other protective clothing.

Eye protection should be worn to avoid risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.

Ensure adequate ventilation in work areas. Respiratory protection should be worn with ABEKP coded filters.

RESOLTECH issues full Material Safety Data Sheet for all hazardous products. Please ensure that you have the correct MSDS to hand for the materials you are using before commencing work.

The data provided in this document is the result of tests and is believed to be accurate. We do not accept any responsibility over the mishandling of these products and our liability is limited strictly to the value of the products we manufacture and supply.