

Araldite[®] GZ 7488 V-40 Resin

Product Description

Araldite[®] GZ 7488 V-40 Resin is a very high molecular weight epoxy based on bisphenol A dissolved in primarily propylene glycol monomethyl ether acetate. Since a film forms without the use of hardener, it produces outstanding coatings by air or force drying. In addition, the high hydroxyl content of the resin permits reaction with urea-melamine, and phenol-formaldehyde crosslinking resins to produce excellent baking finishes. Coatings based on Araldite[®] GZ 7488 V-40 Resin exhibit excellent adhesion, flexibility, impact and abrasion resistance, and chemical and corrosion resistance. The unique feature of the resin is its low degree of branching, leading to greater flexibility than the very high molecular weight resin Araldite[®] GZ 488 Resin. The more linear structure results in higher solids than the Araldite[®] GZ 488 V-32 Resin solution.

Applications

- Can coatings
- Coil coatings
- Product finishing

Features

- Low viscosity at higher solids
- Very good flexibility and toughness
- Excellent chemical and corrosion resistance

FDA Status

Cured coatings made with this resin and other approved components meet the requirements of the Food & Drug Administration regulation 21 CFR 175.300, for the safe use as a food-contact surface under the conditions described in this section. Solvents are not covered and must be removed in the final coating.

Typical Properties*

Property	Value
Color, Gardner, max.	4
Viscosity, @ 25°C, cP	3000 - 6000
Solids Content, %	40 ± 1
Epoxy value, eq./kg (solids)	0.10 - 0.15
Epoxy equivalent, g/eq. (solids)	6600 - 10,000
Density @ 25°C (77°F), g/cm ³	1.01
Flash Point, closed cup, °C (°F)	36 (97)

*Typical properties are based on Huntsman's test methods. Copies are available upon request.

Processing

Crosslinking Resins

The combination of Araldite® GZ 7488 V-40 resin with phenolic or amino resins produces baking enamel systems with the following properties after curing at temperatures in the range of 149-232°C.

Reaction properties

High viscosity	Pf	UF	MF
Adhesion	1 - 2	1	2
Flexibility and formability	1 - 2	1	3
Abrasion resistance	1 - 2	2	2
Chemical resistance	1	2 - 3	2 - 3
Color stability	1-2	1	1
Storage stability	2	1	2

1 = excellent
2 = good
3 = moderate

The level of the cross-linking resin for baking is dependent upon the performance required. Blends of cross-linkers may be used.

Product	Range, phr*
Phenolic resins (PF), For optimum chemical and abrasion resistance	10 - 50
Urea-formaldehyde resins (UF), For optimum flexibility	10 - 25
Melamine-formaldehyde resins (MF), For optimum color, fastest cure	5 - 20

*Parts per 100 parts Araldite® GZ 7488 V-40 resin on a solids basis

Pigmentation

Araldite® GZ 7488 V-40 resin is neutral to all epoxy compatible pigments and may be pigmented using standard equipment

Curing

The cure schedule for coatings containing phenolic or amino resins may vary from 60 minutes at 149°C (300°F) to two minutes at 232°C (400°F). The use of an acid catalyst will shorten the bake cycle.

Starting Formulations

Clear Sanitary Lining*

Product	Pounds
Araldite® GZ 7488 V-40 resin	65.7
Aradur® 3365 hardener	12.5
ARCOSOLV PM	9.6
Toluene	9.6
Catalyst Solution	2.6
Total (10% H ₃ PO ₄ in ARCOSOLV PM)	100.0

¹Titanox 2101 (N-L Industries) or equal

²SR-82 (General Electric Co.) or equal

Constants

Property	Value
Non-volatile content, %	30
Epoxy/phenolic ratio (solids)	75/25
Catalyst, % (on total solids)	0.75

Performance Properties

Product	Pounds
Cure schedule	20 min. @ 200°C (392°F)
Substrate	Steel
Dry film thickness, mils	0.5
Pencil hardness	6H
Adhesion	Excellent
Impact resistance, in-lb Direct	160
Reverse	160
Flexibility, conical mandrel	Pass
MEK resistance, double rubs (min.)	200
Boiling water resistance, 4 hr.	No effect
Boiling 20% NaOH resistance, 4 hr.	Yellowing, no other effect
Steam sterilization	Pass
Beer pasteurization	Pass

* Ethocel Std. 7 (Dow Chemical Company) at level of 0.25% based on HZ 365 solids is suggested as a flow control. Introduction as a 10% solution in ARCOSOLV PM will facilitate handling.

Storage

Araldite® GZ 7488 V-40 Resin is supplied in 400 pounds steel drums. It should be stored in a dry place, in the sealed original container, at temperatures between 2°C and 40°C (36°F and 104°F). Under these storage conditions the shelf life is **6 years** (from date of manufacture). The product should not be exposed to direct sunlight.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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Main Offices:

Huntsman Corporation
10003 Woodloch Forest Dr
The Woodlands, TX 77380
888-564-9318

Huntsman Advanced Technology Center
8600 Gosling Rd.
The Woodlands, TX 77381
281-719-7400