Technisches Datenblatt

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Dowsil EA-3838 Fast Adhesive

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DEVELOPMENTAL Technical Data Sheet

Dowsil™ EA-3838 Fast Adhesive

A two-part, fast room temperature cure adhesive.

Features & Benefits

- Two-component, Non-corrosive, Neutral, Alkoxy cure adhesive/sealant
- Fast and homogeneous cure in depth and early adhesion development at room temperature
- Non self-leveling, paste consistency
- Fast cure allows rapid handling of bonded components
- Good, durable adhesion on various substrates
- Excellent weathering and U.V. resistance
- Excellent temperature stability: -50°C to 180°C

Applications

- DOWSIL™ EA-3838 Fast Adhesive has been developed to provide durable adhesive bonding and sealing for components which exhibit different thermal expansion rates, and /or where fast homogeneous cure throughout the adhesive cross section and an early adhesion development is needed.
- Can be used for various Automotive and Automotive Electronics assembly applications, where a flexible strong adhesive is needed.
- DOWSIL™ EA-3838 Fast Adhesive is also a perfect solution for appliances manufacturing, for bonding glass to metal, glass to painted metal or glass to plastic at Ovens, Refrigerators and small home appliances.

Typical Properties

Specification Writers: The tests and values listed below are not intended for use in preparing specifications. Certain tests mentioned below may only be performed during development of the product and may no longer be provided if the product is commercialized.

Test	Property	Unit	Result
	Dowsil™ EA-3838 Fast Adhesive Base, Black: As Supplied		
	Color		Black
	Specific gravity		1.34
	Viscosity (1 s^{-1})	Pa.s	350.000 – 450.000
	Viscosity (10 s^{-1})	Pa.s	150.000 – 200.000
	Dowsil™ EA-3838 Fast Adhesive Catalyst: As Supplied		
	Color		White
	Specific gravity		1.60
	Viscosity (1 s^{-1})	Pa.s	550.000 – 700.000
	Viscosity (10 s^{-1})	Pa.s	75.000 – 100.000

Dowsil™ EA-3838 Fast Adhesive

	Dowsil™ EA-3838 Fast Adhesive: As Mixed by 2:1 (Base:Catalyst) Volume ratio			
	Color and consistency			Black non-slump paste
	Snap time (25°C, 50% R.H.)		minutes	2 – 3
	Tack-free time (25°C, 50% R.H.)		minutes	5 – 8
	Vertical Flow		mm/60sec	< 2
	Dowsil™ EA-3838 Fast Adhesive: As Mixed by 4:1 (Base:Catalyst) Volume ratio			
	Color and consistency			Black non-slump paste
	Snap time (25°C, 50% R.H.)		minutes	4 – 6
	Tack-free time (25°C, 50% R.H.)		minutes	13 – 18
	Vertical Flow		mm/60sec	< 2
	Dowsil™ EA-3838 Fast Adhesive Properties after full cure, 2:1 by Volume ratio – 7 days at 23°C – measured on 2 mm sheets			
	Durometer		ShA	40
	Tensile Strength		MPa	> 1.5
	Elongation at break		%	> 250
	Early Adhesion via Lap Shear			
	Lap shear strength Build up			
	Glass / Stainless steel	@ 15 minutes	Mpa	≥ 0.3
		@ 60 minutes	MPa	≥ 0.5
		@ 24 hours	MPa	≥ 0.8
		@ 7days	MPa	≥ 1.0
	Adhesion via Lap Shear – 7 days at 23°C			
	Lap shear strength			
	Glass / Steel, Galvanized Steel		MPa	≥ 1.0
	Glass / Aluminum, Eloxal Coated Aluminum		MPa	≥ 1.0
	Glass / PC, PA		MPa	≥ 1.0

	Glass / ABS, PBT	MPa	≥ 0.8
	Cohesive failure		
	Glass / Stainless Steel, Steel, Galvanized Steel	%	100 / 100
	Glass / Aluminum, Eloxal Coated Aluminum	%	100 / 100
	Glass / PC, PA	%	100 / PC:50, PA:100
	Glass / ABS, PBT	%	100 / 100

Description

DOWSIL™ EA-3838 Fast Adhesive is a two component, non-self-leveling adhesive with fast cure at room temperature.
The product has been developed to show good, durable adhesion to a wide range of clean substrates including plastics, metals and glass.

How To Use

Mixing

The adhesive is designed to be used in a mixing ratio between 2 parts base: 1 part catalyst by volume, (or 1.7 parts Base: 1 part Catalyst by weight) and 4 parts base: 1 part catalyst by volume, (or 13.4 parts Base: 1 part Catalyst by weight). Other mixing ratios between these limits can be used but Dow should be consulted prior to use. Suitable meter/mix equipment should be equipped with gear or piston metering pumps for base and catalyst, and a suitable static or a dynamic mixer.

The presence of light-colored streaks, or marbling, indicates inadequate mixing. Automated airless dispense equipment can be used to reduce or avoid the need to de-air.

Curing Conditions

The adhesive cures at room temperature and develops adhesion rapidly to glass, plastic and metal substrates.

The surfaces to be bonded should be clean, and free of any extraneous matter, dust or dirt. Adhesion is normally good to most substrates without the use of a primer, or of surface activation methods. If desired, adhesion may be enhanced via use of flame or plasma treatment or corresponding primers on the surfaces to be bonded.

The cure and adhesion strength can also be accelerated by the application of moderate heat, for example 10 minutes at 40–70°C.

Temperature, Hot and Humid Resistance

DOWSIL EA-3838 Fast Adhesive shows good adhesive resistance to hot and humid conditions, for example7 days in water at 70°C.

DOWSIL EA-3838 Fast Adhesive shows good adhesive resistance up to 180 °C and can resist higher temperatures for short-term peaks.

Dowsil™ EA-3838 Fast Adhesive

Developmental Product Disclaimer

Dowsil™ EA-3838 Fast Adhesive is a Dow developmental material. The composition, features, benefits and other properties are subject to change. The future availability of this product is not guaranteed. You are responsible to determine the suitability of the Product for your contemplated use. The Product is provided "AS IS" WITH ALL FAULTS, AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 30°C, Dowsil™ EA-3838 Fast Adhesive Catalyst has a usable life of 12 months from the date of production.

When stored at or below 30°C, Dowsil™ EA-3838 Fast Adhesive Base, Black has a usable life of 12 months from the date of production.

Prolonged exposure to high Temperatures during storage may result in a slow down of the cure speed, which can be substantiated by using a higher catalyst mixing ratio in most cases.

Packaging Information

This product is available in different standard container sizes. Detailed container size information should be obtained from your nearest Dow Sales Office or Dow Distributor.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, consumer.dow.com or consult your local Dow representative.

consumer.dow.com

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