



## Technical Data Sheet

# DOWSIL™ 813C Construction and Concrete Silicone Sealant

### Neutral silicone sealant

#### Features & Benefits

- Good unprimed adhesion to a variety of substrates
- Neutral cure
- Low odor
- Conforms to ISO 11600-F-25LM
- Meets the requirements of EN 15651-4 and EN 14188-2 class A
- Resistant to ozone, ultra-violet radiation and extreme temperatures
- Joint movement capability  $\pm$  50%
- Excellent weatherability –virtually unaffected by sunlight, rain, snow, ozone and extreme temperatures of -40°C to 149°C

#### Applications

- DOWSIL™ 813C Construction and Concrete Silicone Sealant is a one-part, neutral curing, low modulus silicone sealant particularly suitable for interior and exterior applications, such as external weather seals, expansion joints and perimetral joints in buildings and other types of construction as well as pedestrian walkways and traffic roads which do not involve immersion in fuel. DOWSIL 813C Construction and Concrete Silicone Sealant offers durable adhesion to a range of porous and non-porous surfaces including concrete, masonry, brick, PVC-U, wood and some metals used in construction without danger of corrosion from the sealant.

#### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test <sup>1</sup>	Property	Unit	Result
	Cure system		Alkoxy
	Service temperature	°C	- 40 to + 149
	Application temperature	°C	+5 to 50
CTM 97B	Specific gravity		1.51
CTM 364C	Extrusion rate	g/minute	240
CTM 98B	Skin-over time (23°C, 50% R.H.)	minutes	20
CTM 95A	Tack-free time (23°C, 50% R.H.)	minutes	30

1. CTM: Corporate Test Method, copies of CTMs are available on request.

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## Typical Properties (Cont.)

Test	Property	Unit	Result
CTM 663A	Cure rate (23°C, 50% R.H.)		
	1 day	mm	2.0
	3 days	mm	4.0
<b>2 mm thickness S2 dumb-bells (ISO<sup>2</sup> 37/DIN<sup>3</sup> 53 504)</b>			
CTM 137A	Modulus 100%	MPa	0.45
CTM 137A	Tensile strength	MPa	1.9
CTM 137A	Elongation at break	%	700
<b>12 x 12 x 50 mm size T.A. joint (ISO 8339/DIN 2-8339)</b>			
CTM 677	Modulus 100%	MPa	0.35
CTM 677	Tensile strength	MPa	0.75
CTM 677	Elongation at break	%	380
CTM 99E	Hardness (Shore A)		29
ISO 7389	Elastic recovery	%	> 90
ISO 9047	Joint movement capability	%	± 50

2. DIN: Deutsche Industrie Norm
3. ISO: International Standardization Organization.

### Technical Specifications And Standards

- Conforms to SNJF Façade
- ISO 11600-F-25LM
- DIN 18540 Class F
- EN 15651-4
- EN 14188-2 class A



### How To Use

#### Surface Preparation

Ensure that surfaces to be sealed are clean, dry, sound and grease-free. Clean non-porous surfaced with DOWSIL™ R-40 Universal Cleaner, and dry thoroughly with a clean, lint-free cloth before application of sealant. Porous substrates such as concrete, brickwork, mortar, etc. must be mechanically cleaned of loose particles using a steel brush, sanding disc or any similar means.

Note: When using any solvent, always provide adequate ventilation. Avoid heat, sparks and open flames. Use solvent resistant gloves. Observe and follow all precautions listed on solvent container label.

## How To Use (Cont.)

### Masking

Areas adjacent to the joints should be masked with tape to prevent contamination of the substrates and to ensure a neat sealant line. Masking tape should be removed immediately after tooling.

### Priming

Primers are not usually required but might be needed for some specific substrates for maximum adherence.

### Back-Up Materials

Where back-up material is required, closed cell polyethylene backer rod is recommended. Back-up materials provide back pressure and avoid three sided adhesion that limits sealant movement capability.

### Finishing

The joint should be tooled within 5 minutes of application to ensure good contact between the sealant and the substrate. Tooling of the sealant also gives a smooth, professional finish.

### Clean-Up

Excess sealant may be cleaned off tools and non-porous surfaces whilst in an uncured state using DOWSIL R-40 Universal Cleaner. If sealant is misapplied to porous substrates, it should be left until it is just cured and then removed by peeling, cutting or other mechanical means. Care should be taken not to damage plastic or coated surfaces.

## Joint Design

The sealant joint width should be designed to accommodate the movement capability of the sealant. When designing joints using DOWSIL 813C Construction and Concrete Silicone Sealant, the minimum width should be 6 mm. For joints between 6–12 mm wide, a seal depth of 6 mm is required. For joints above 12 mm wide, a width to depth ratio of 2:1 should be used. In situations where fillet joints are needed, a minimum of 6 mm sealant bite to each substrate is recommended. For joint dimensions with a width greater than 25 mm or a depth greater than 15 mm, please contact your local technical services.

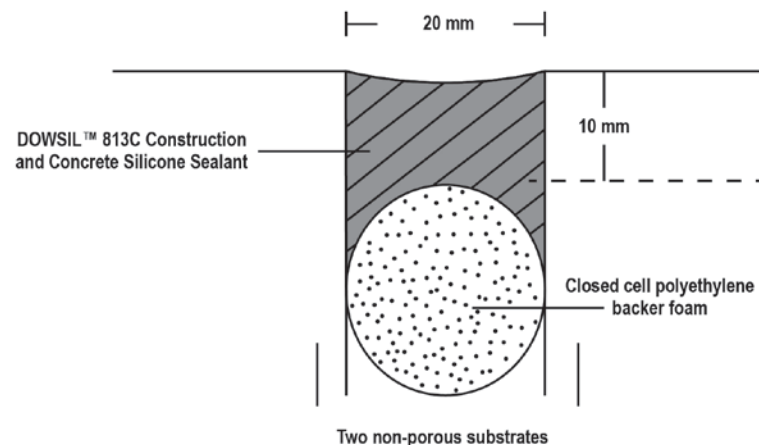


Figure 1:  
Deep joint

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## Joint Design (Cont.)

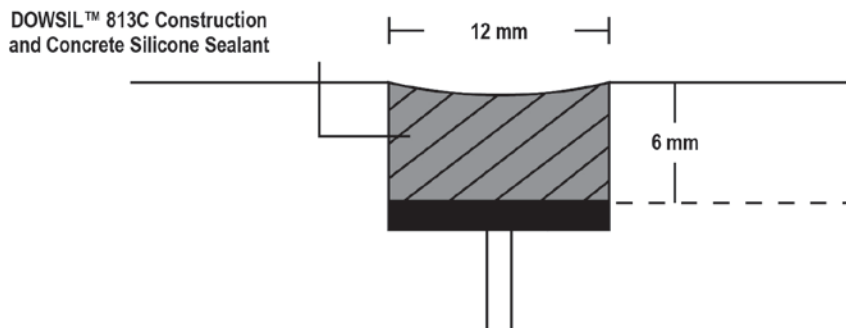


Figure 2:  
Shallow joint

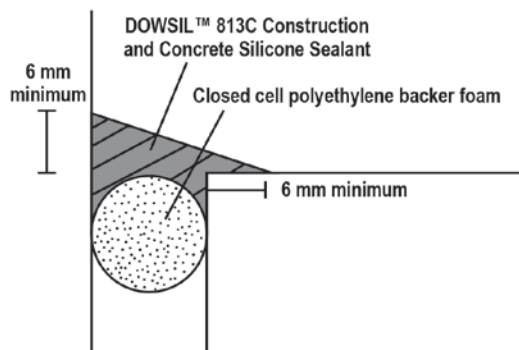


Figure 3:  
Fillet joint

## 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 [WWW.CONSUMER.DOW.COM](http://WWW.CONSUMER.DOW.COM), OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

## Usable Life And Storage

DOWSIL 813C Construction and Concrete Silicone Sealant should be stored in cool and dry conditions.

When stored at or below 30°C in the original unopened containers, DOWSIL 813C Construction and Concrete Silicone Sealant has a usable life of 12 months from the date of production.

## Packaging Information

DOWSIL 813C Construction and Concrete Silicone Sealant is supplied in 310 ml cartridges packed in boxes of 12 and 600 ml sausages packed in boxes of 20.

## Colors

DOWSIL 813C Construction and Concrete Silicone Sealant is available in the following colors: white, stone, sand, desert rose, grey, red beige, pink coral, anthracite, brown, bronze, black, dark brown, and custom color.

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## Limitations

Do not use DOWSIL 813C Construction and Concrete Silicone Sealant on bituminous substrates, substrates based on natural rubber, chloroprene or EPDM or on building materials and flexible plastics which might bleed oils, plasticizers or solvents. Do not use DOWSIL 813C Construction and Concrete Silicone Sealant in a totally confined space because the sealant requires atmospheric moisture to cure. DOWSIL 813C Construction and Concrete Silicone Sealant is not recommended for use on submerged joints or in joints where physical abuse or abrasion is likely to occur. Bleeding can occur on porous substrates such as marble, granite or other natural stones. On sensitive substrates, specific testing should be carried out.

This product is not suitable for areas where food contact is likely.

DOWSIL 813C Construction and Concrete Silicone Sealant is not recommended for structural glazing, insulated glazing or other glazing applications.

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, [www.consumer.dow.com](http://www.consumer.dow.com) or consult your local Dow representative.

<http://www.consumer.dow.com>

### LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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