Technical Data Sheet

DOWSIL™ 776 Instantfix WB

Instant strength neutral cure silicone for window & door assembly

Features & Benefits

- Easy-to-use one-part silicone
- Low squeeze-out
- Provides instant Green Strength
- UV- and weather -resistant
- Primerless adhesion to a wide range of substrates such as PVC, coated wood, glass, etc.
- Neutral cure
- Low odor
- Suitable for automated assembly applications
- Elastic bonding silicone
- Structural capability for window bonding applications similar to Dow construction two-part silicones
- Temperature stability over a wide range: -50°C to +150°C
- Fast strength build up supports productivity enhancements due to fast handling of bonded units (see Figure 1)
- Saves time as no buffer for strength build up required
- For factory glazing and on-site application

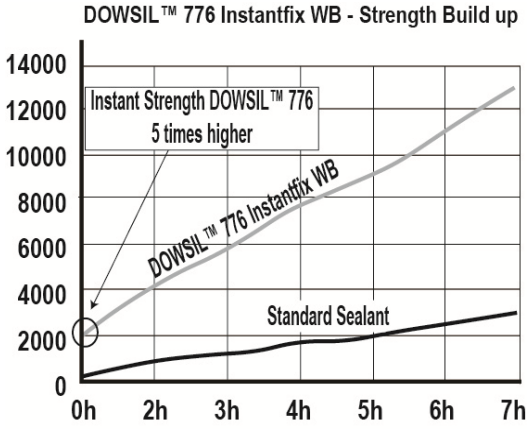

Figure 1

Form No. 62-1654-01-0920 S2D

Applications

- DOWSIL™ 776 Instantfix WB is a one-part silicone sealant specifically designed for window & door bonding application that require immediate handling and processing of the units. It provides immediate strength directly after application, enhancing productivity. DOWSIL™ 776 Instantfix WB is a silicone which shows primerless adhesion to a variety of substrates typical for windows and doors. As a one-part silicone it is suitable for manual and automated processes and provides excellent long-term durability.

Typical Properties

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

Test[1]	Property	Unit	Result
	As supplied – uncured state		
CTM 97B	Specific gravity	g/ml	1.58
ASTM D2202	Flow (sag or slump)	mm	0
ASTM C 679	Tack-free time (23°C, 50% R.H.)	minutes	30
CTM 663A	Curing time (23°C, 50% R.H.)		
	After 24 hours	mm	2
	After 72 hours	mm	4
CTM 1430	Immediate strength	Pa	1500
	As cured after 7 days at +23°C 2 mm sheet (ISO 37)		
CTM 99A	Durometer hardness, Shore A	points	47
CTM 137A	Modulus at 100% elongation	MPa	1.0
CTM 137A	Tensile strength at break	MPa	1.8
CTM 137A	Elongation at break	%	500
	Properties after 28 days cure at 50% RH and +23°C (73°F)12 mm x 12 mm x 50 mm H-Piece (ISO 8339)		
ISO 8339	Elongation at break	%	> 100
ISO 8339	Tensile strength	MPa	1.2
	Service temperature range	°C	-50 to +150

1. CTM: Corporate Test Method, copies of CTM's are available on request.
   ASTM: American Society for Testing and Materials.
   ISO: International Standardization Organization.

Description

DOWSIL™ 776 Instantfix WB is a one-part, neutral curing alkoxy silicone sealant designed specifically for window bonding application.

Neutral alkoxy silicones cure at room temperature on exposure to water vapor in the air, giving off a small amount of alcohol.

Technical Specifications and Standards

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC régulations	A+	Regulation of March and May 2011 (DEVL1101903D and DEVL1104875A)
French CMR components	Pass	Regulation of April and May 2009 (DEVP0908633A and DEVP0910046A)
Italian CAM Edilizia	Pass	Decree 11 January 2017 (GU n.23 del 28-1-2017)
AgBB/ABG	Pass	Anforderungen an bauliche Anlagen bezOglich des Gesundheitsschutzes (ABG), Entwurf 31.08.2017/August 2018 (AgBB)
Belgian Regulation	Pass	Royal decree of May 2014 (C-2014/24239)
EMICODE	EC 1	April 2019
Indoor Air Comfort	Pass	Indoor Air Comfort 6.0 of February 2017
Blue Angel (DE-UZ 123)	Pass	DE-UZ 123 for "Low-Emission Sealants for Interior Use", (January 2019)
BREEAM International	Exemplary lvl	BREEAM International New Construction v2.0 (2016)
BREEAM Norway	Pass	BREEAM-NOR New Construction v1.2 (2019)
CDPH	Pass	

Green Strength

DOWSIL™ 776 Instantfix WB provides immediate Green Strength. Once applied and substrates assembled together, DOWSIL™ 776 Instantfix WB is able to withstand certain dynamic and constant loads.

This property is unique and can eliminate the usage of tapes for pre-fixing. It is therefore able to enhance productivity, can save time and labor cost. The immediate Green Strength is about 5 times higher than any other standard sealant which typically allows to move freshly bonded window units and window components immediately.[1]

[1]Please refer to Figure 1 (see end of this document).

How to Use

DOWSIL™ 776 Instantfix WB is a ready to use silicone sealant. It provides excellent strength and adheres to a wide range of most common window materials such as PVC, coated wood, metal and glass. DOWSIL™ 776 Instantfix WB can be used for fully automated robotized applications and is also suitable for manual applications.

It has good workability and ease of use properties, low string and a good resistance compression. There is far less squeeze out as seen with standard sealants.

As it is a moisture curing sealant, the reaction starts at the surface exposed to moisture and cures in depth. The deeper the joint is, the longer it takes the sealant to cure completely. Moisture has to migrate further to the already cured skin and as this skin becomes thicker, the reaction slows further down.

For bonding application, the joint depth in general should not be deeper than 10 mm to achieve reasonable cure times. However, the ultimate joint depth must not exceed 14–15 mm.

Bonding Application

DOWSIL™ 776 Instantfix WB offers good adhesion to most common window substrates such as PVC, coated wood, glass and metal. The sealant is compatible with most commonly used glazing components. It is compatible to DOWSIL™ neutral curing construction sealants and DOWSIL™ neutral curing insulating glass sealants.

It is important when selecting components within window bonding application to ensure adhesion and compatibility by carrying out tests.

As a one-part neutral curing system, moisture vapor/humidity is required for cure. Substrates have to be put together within the above stated open time before skin formation. High humidity level and higher temperatures accelerate the cure process.

Green Strength is continuously building up during cure. Adhesion to the substrates is developed at the same time as product cure. Although the strength build up is quite fast, the sealant will develop its final properties once completely cured. Therefore windows should not be installed before complete cure.

A further requisite for a high quality bonding application consists in an appropriate joint dimension. Depending on parameters such as glass weight, window sizes, but also frame materials and temperatures, joint dimensions may vary. Typical joint dimensions are in a range of 4 mm x 8 mm / 4 mm x 10 mm, but strongly depend on the specific parameters of the window system and the conditions it is exposed to after installation. More specific information about bonding are available in the Technical Manual for Bonded Windows. For each bonding project separately and depending on customer requirements, your local construction industry technical service will provide a tailor-made solution.

For further information please contact your local technical service engineer, who can help determining the required joint dimensions.

Cleaning

Substrates must be clean prior to application to ensure adhesion durability. All surfaces must be clean from contaminants and residues such as grease, oil, dust, water, frost, surface dirt, old sealants or glazing compounds and protective coatings. Metal, glass and plastic surfaces should be cleaned by solvent procedures. Solvent should be wiped on and off with clean, oil- and lint-free cloths. DOWSIL™ R-40 Cleaner is recommended for cleaning. The ventilation time at room temperature should be at least 1 minute. Please contact your local technical service engineer for more information.

Priming

For each project separately, it is essential that adhesion to all concerned surfaces should be tested before application. If adhesion requires priming, a primer such as DOWSIL™ 1200 OS Primer is in general recommended. When priming, the ventilation time at room temperature should be at least 1 minute.

Priming should be done within 4 hours after cleaning. If there is a greater time delay, cleaning process has to be repeated again. Project specific priming regulation needs to be discussed and approved by your local technical department. Please contact your local technical service engineer for further assistance.

Masking and Tooling

Areas adjacent to joints may be masked to ensure a neat sealant line. Do not allow masking tape to touch clean surfaces to which the silicone sealant is to adhere. Tooling should be completed in one continuous stroke before skin building. Masking tape should be removed immediately after tooling.

Maintenance

No maintenance is needed once sealant has been properly applied and cured. If glass units need to be replaced or sealant becomes damaged, sealant joint has to be cut back as much as possible. DOWSIL™ 776 Instantfix WB will adhere to cured silicone sealant which exhibits a clean knife-cut or abraded surface.

Equipment Cleaning

Once sealant is used in conjunction with a dispensing equipment, dispensing system needs to be air-tight and moisture tight as otherwise sealant will start to cure over time. Normally there is no specific cleaning required as it is a one-part silicone sealant. Material which stays uncured in the nozzle, will start to cure. To avoid that, nozzle should be covered with a moisture tight material such as metal.

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 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 in the original unopened containers, DOWSIL™ 776 Instantfix WB has a usable shelf life of 12 months from the date of production.

Storage conditions must be respected as higher temperatures will significantly reduce shelf life.

Packaging Information

DOWSIL™ 776 Instantfix WB is available in white and black.

For manual application it is provided in 310 ml cartridges and 600 ml sausages as well as in 20 liter pails and 250 kg drums.

Limitations

DOWSIL™ 776 Instantfix WB must not be used for structural glazing applications in façade or as a sealant for insulating glass units.

Because of the risk of incompatibility, DOWSIL™ 776 Instantfix WB must not come into contact with, or to be exposed to, sealants that liberate acetic acid.

Prior to use DOWSIL™ 776 Instantfix WB in fully automated bonding applications, it is recommended to contact your local construction industry technical service. Each project shall be specifically and separately approved by Dow. Project approval involves the following prerequisites:

- Joint dimensioning and print reviews.
- Successful laboratory adhesion and compatibility testing to all relevant building components in direct or indirect contact with the bonding sealant.
- Observance of professional sealant application and workmanship standards.

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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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