

# WD- 831 IG SILICONE

High Performance 2-Component Insulating Glass Sealant

## TECHNICAL DATASHEET



### PRODUCT DESCRIPTION

**WEIDU™ WD-831 is a 2-component, high modulus neutral alkoxy cure architectural grade insulating glass secondary edge sealant with structural capabilities based on [Silyl Modified Polymer \(MS Polymers™\)](#).**

It is preferably used for air-filled insulating glass. It cures by absorption of atmospheric moisture to form a flexible and durable elastomeric sealant. WD-831 offers variable work life with fast deep section cure to accommodate scheduling and production needs. It is also suitable for joints on insulating units and glass elements made of laminated and tempered safety glass in factory.

### FEATURES & BENEFITS

- ☑ Odorless and Non-corrosive cure byproduct
- ☑ Designed to allow sufficient time for placement and tooling before skinning.
- ☑ Faster early hour cure properties to facilitate handling of assembled units.
- ☑ Extraordinary adhesion power to glass, aluminium and steel
- ☑ Neutral cure – suitable for use on coated glass, galvanized steel, masonry and other porous and non-porous substrates.
- ☑ Primer less adhesion, Bonds to most conventional substrates and finishes including: glass, glass coatings, ceramic frits, fluoropolymer and powder coated paints, conversion-coated, concrete, masonry, brick, painted & anodized aluminum, terracotta, PVC-U, tile, polycarbonate, vinyl, plastics, wood, metal and natural stones.
- ☑ Excellent long-term resistance to natural weathering including: sunlight, rain, snow, ultraviolet radiation, heat and humidity, ozone and temperature extremes.
- ☑ Cures to form an extremely tough elastomeric rubber ensuring a durable, flexible, watertight bond



### CONFORMS, MEETS & EXCEEDS

WEIDU™ WD-831 Sealant has been internally tested and is designed to meet or exceed the test requirements of: GB/T29755-2G-20HM

### TYPICAL PROPERTIES – UNCURED

Information on this data sheet can change without notice and it is therefore not recommended that these figures be

used in spec writing. If you have any questions contact manufacturer's sales and technical service department.

Properties	Value – Base, A	Value – Catalyst, B	Test Method
Appearance	No Grain & No Agglomerations		ISO 11600
Color	Before Mixing	White	Black
	After Mixed	Black	
Consistency	Thixotropic Paste		
Chemical base	2-component silicone		
Basis	MS-Polymer		
Cure mechanism	Polycondensation		
Cure Type	Alkoxy (Neutral)		
Conforms to	GB/T 29755-2G-20HM		
Density at 25°C	g/cm <sup>3</sup>	1.68	ISO 1183
Mixing Ratio - A:B by Volume	10:1		
Work Life (Snap time)	10-15 minutes		
Tack Free Time	60 minutes		ASTM C679
Sag/Slump	0, Non sag		ISO 7390

## **TYPICAL PROPERTIES – CURED**

Properties	Value	Test Method
Hardness, Shore A	45	ASTM D-2240-97
Ultimate Tensile Strength	0.72 , MPa	ISO 8339
Ultimate Elongation, %	51	ISO 8339
Heat weight loss,%	2.4	ISO 10563
Joint Movement Capability	±20%	ASTM C719
Service Temperature Range (after cure)	-40°C to +150°C	
Application temperature (ambient )	+5°C to +50°C	
Cure Rate / Day (deep section)	2 mm	
Full Cure (most common bead sizes)	7-14 days	

## **METHOD OF APPLICATION**

### **SURFACE PREPARATION**

Sealants may not adhere or maintain long-term adhesion to substrates if the surface is not prepared and cleaned properly before sealant application. Surfaces must be clean, dry and free from grease, oil and dust. Surface treatment depends on the specific nature of the substrates and is crucial for a long lasting bond.

Isopropyl Alcohol (IPA) is commonly used and has proven useful for most substrates. Xylene and Toluene have also been found useful on many substrates.

### **CLEANING PROCEDURES**

- Use clean, white cloths free of lint or other lint-free wiping materials.
- Do not use detergent to clean the substrate as residue may be left on the surface.
- Clean only as much area as can be sealed in one hour. If cleaned areas are again exposed to rain or contaminants, the surface must be cleaned again.

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

### **MASKING**

Areas adjacent to the joints should be masked with tape to prevent contamination of the substrates and to ensure a neat sealant line. Remove masking immediately after application of silicone or as soon as possible.

### **PRIMING**

Primers are not usually required but might be needed for some specific substrates for maximum adherence. WEIDU™ WD- 831 will bond to many clean surfaces without the aid of a primer. For difficult-to-bond substrates, the use of a primer or special surface preparation should be evaluated. When properly used, primers help assure strong and consistent sealant adhesion to surfaces that may be difficult to bond.

**PRIMER APPLICATION IS NOT A SUBSTITUTE FOR SURFACE PREPARATION.**

### **TOOLING AND FINISHING**

Tooling and finishing must be carried out within the snap time of the sealant, gives a smooth & professional finish. The joint should be tooled within 5 minutes of application to ensure good contact between the sealant and the substrate. When tooling freshly applied WEIDU™ WD-831, press the adhesive to the joint flanks to get a good wetting of the bonding surface. No tooling agents must be used.

### **APPLICATION**

The optimum temperature for substrate and sealant is between 15 °C and 25 °C. Before processing WEIDU™ WD-831 both components have to be mixed homogeneously and air-bubble-free in the correct ratio as indicated with an accuracy of  $\pm 10$

%. Most commercially available metering and mixing equipment are suitable. Consider that the B-component is moisture sensitive and must therefore only be exposed briefly to air. Joints must be properly dimensioned.

### **CURE MECHANISM**

WEIDU™ WD-831 starts to cure immediately after mixing the two components. The speed of the reaction depends mainly on the temperature, i.e. the higher the temperature the faster the curing process. Heating above 50 °C could lead to bubble formation and is therefore not allowed. The mixer open time, i. e. the time the material can remain in the mixer without flushing or extrusion of product, is significantly shorter than the snap time indicated above.

### **CLEAN UP**

Excess sealant and smears adjacent to the joint interface can be carefully removed with xylene or mineral spirits before the sealant cures. Any utensils used for tooling can also be cleaned with xylene or mineral spirits. Once cured, the material can only be removed mechanically. Hands and exposed skin should be washed immediately using a suitable industrial hand cleaner and water. Do not use solvents on skin!

### **STORAGE & SHELF LIFE**

WEIDU™ WD-831 Insulating Glass Sealant should be stored in cool and dry conditions. Prolonged storage at high temperatures may affect shelf life and ultimate performance. The shelf life of WEIDU™ WD-831 is 12 months from the date of manufacture when stored below 25°C and below 50% relative humidity.

In countries where high heat and humidity are a factor, special precautions must be taken to store the product in a covered, well-ventilated warehouse and avoid excessive heat conditions.

## **PACKAGING INFORMATION**

WEIDU™ WD-831 Insulating Glass Sealant is supplied in Drum 190 Ltr and Pail 19 Ltr

## **CAUTION/SAFETY**

Please refer to the SDS for the corresponding product for information regarding safety and handling. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The Material Safety Data Sheet is available upon request.

## **LIMITATIONS**

**WEIDU™ WD-831 Insulating Glass Sealant not be used, applied or is not recommended to the following applications:**

- In food contact applications.

- In designs where the sealant is encapsulated and without access to atmospheric moisture (this material requires atmospheric moisture to cure from paste to rubber).

- Under exceedingly hot or cold conditions. Cold temperature and low humidity will slow curing.

- Underwater or in applications where the product will be in continuous contact with water.

  - For contact with strong acids or bases.

  - Sealant may discolor copper and brass.

- On bituminous substrates, substrates based on natural rubber, chloroprene or EPDM or on building materials which might bleed oils, plasticizers or solvents.

- Not for structural glazing

## **WARRANTY INFORMATION**

WEIDU™ warrants that its product complies, within its shelf life, to its specification.

If any responsibility were to be considered ours, this would be only for any damages and for the value of the merchandise supplied by us and used by the customer. It is over understood that we warranty the irreproachable quality of our products in accordance with our General Conditions of Sales and Supply.

## **LIABILITY**

The information in this document, in particular recommendations regarding the application and final use of our products, are given in good faith based on our knowledge and is the result of tests and experience and are intended as guidelines. It is the responsibility of the user to determine whether the product is suitable for the application. Due to the great variety of materials and conditions, which are beyond our knowledge and control, we recommend carrying out sufficient previous trials.

The property rights of third parties must be respected.

This TDS replaces and supersedes all previous data sheets on the same product.