

SS821 Silicone Structural Sealant

DESCRIPTION

SS821 Silicone Structural Sealant is a one-component, neutral curing translucent silicone sealant designed and tested for structurally glazed curtain wall applications. The material is supplied as a paste, which cures into an extremely tough elastomeric silicone rubber ensuring a durable, flexible, watertight bond upon exposure to atmospheric moisture.

CHARACTERISTICS

- SS821 belongs to RTV-1. Good extrusion and thixotropy between 4°C~+40°C. Easy to use;
- Neutral cure, high tensile strength, fast curing, Translucent.
- Excellent resistance to weather, the life is 50 years under usual weather;
- Remains flexible over a temperature range of -58° F(-50° C) to 302° F(150° C)
- Successfully tested for use in protective glazing applications
- Excellent adhesion to glass and ceramics.
- Good compatibility with other neutral silicone sealants
- Meets global standards for structural glazing (American, China, Europe)

APPLICATIONS

- Glazing.
- Sealing in glass joints.
- Structural glazing in glass curtain wall.
- Structural glazing in big glass and glass roof structural engineering.

TYPICAL PROPERTIES

Property	Result	Test method
As Supplied		
Color	Black, gray, white	
Tack free time(23°C/73°F, 50% RH)	25 minutes	ASTM C679
Full Adhesion	14-21 days	
Flow, Sag or Slump	0.1 inches max	ASTM D2202
Working Time	10-15 minutes	
As Cured		
Durometer Hardness, Shore A	28	ASTM D2240
Ultimate Tensile Strength	0.70MPa	ASTM C1135
Specifications: Typical property data values should not be used as specifications. Assistance with specifications are available by contacting Guangzhou Baiyun Chemical Industry CO., LTD.		

APPLICABLE STANDARDS

SS821 Silicone Structural Sealant meets or exceeds the requirements of the following

specifications for one-part sealants.

ASTM Specifications:

- C1184, Type S, Use G and O

European Standard:

- ETAG 002

China Standard:

GB 16776

COLORS

SS821 Silicone Structural Sealant is available in clear

删除的内容: black, gray,
white or other colors on
request.

PACKAGING

SS821 Silicone Structural Sealant is available in 10.1 fl. oz. (300 ml) plastic caulking cartridges.

LIMITATIONS

SS821 Silicone Structural Sealant should not be used, applied or is not recommended:

- In structural glazing applications unless Guangzhou Baiyun Chemical Industry CO., LTD. has reviewed shop drawings for applicability and has performed adhesion and compatibility tests on project substrates, spacer materials and all accompanying accessories. Review and testing is done on a project-by-project basis. No blanket approval is given by Guangzhou Baiyun Chemical Industry CO., LTD. for structural glazing applications. Structural glazing industry guidelines (ASTM C1401) suggest that drawings and details are to be reviewed by all parties involved in the manufacture of an SSG system and for each building project.
- To building materials that bleed oils, plasticizers or solvents – materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets or tapes
- In totally confined spaces as the sealant requires atmospheric moisture for cure
- When surface temperatures below 10°C (50°F) or exceed 40°C (104°F)
- Where painting of the sealant is required, as the paint film may crack and peel
- In below-grade applications
- For use as an interior penetration fire stop sealing system
- In horizontal floor joints where abrasion and physical abuse are likely to be encountered
- To frost-laden or damp surfaces
- On PMMA, PC, PP, PE, PTFE substrates.
- For structural adhesion on bare metals or surfaces subject to corrosion (i.e., mill aluminum, bare steel, etc.)
- For contact with strong acids or bases
- To surfaces in contact with food
- For continuous immersion in water
- This product is neither tested nor represented as suitable for medical or

pharmaceutical uses.

TECHNICAL SERVICES

Complete technical information and literature are available from Guangzhou Baiyun Chemical Industry CO., LTD.

The following materials are required to be submitted to Guangzhou Baiyun Chemical Industry CO., LTD. to receive suggestions for the use of SS821 Silicone Structural Sealant.

- Architectural and shop drawings for review and comment.
- Design wind load requirement(s) for project.
- Glass or panel sizes.
- Production samples of metal, glass, gaskets, spacers and setting blocks with type and manufacturer identified.
- Specification and/or identification of paint or finish to which SS821 Silicone Structural Sealant is intended to adhere (i.e., 215-R1 anodized or if paint; manufacturer, finish system and ID#).

Guangzhou Baiyun Chemical Industry CO., LTD. will provide the following, after reviewing the materials above:

- Determination as to whether the submitted joint dimensions meet the minimum design criteria necessary for the use of SS821 Silicone Structural Sealant.
- Short-term adhesion data using (typically) the ASTM C794 and/or ASTM C1135 test method. Other test methods may be employed.
- Short-term compatibility test results on gaskets, spacers and setting blocks and other accessories per ASTM C1087 or Guangzhou Baiyun Chemical Industry CO., LTD. test method for compatibility.
- Information regarding suggested primers, when required.

Guangzhou Baiyun Chemical Industry CO., LTD. will not:

- Design sealant joints.
- Provide comments on the structural integrity of overall framing system(s).
- Provide long-term performance data.

The design professional has final responsibility for the determination of structural sealant joint dimensions based on project conditions, design wind load(s), glass or panel sizes, anticipated thermal, seismic or other movement of the system.

The ASTM C1401 Standard Guide for Structural Sealant Glazing provides a thorough overview of design topics and information for use in SSG systems.

INSTALLATION

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. Using proper materials and following prescribed surface preparation and cleaning procedures is vital for sealant adhesion. Guangzhou Baiyun Chemical Industry CO., LTD. can provide

quality control information and suggestions to user upon request.

Materials

- Use clean, fresh solvent as recommended by the sealant manufacturer's test report. When handling solvents, refer to manufacturer's MSDS for information on handling, safety and personal protective equipment. Isopropyl Alcohol (IPA) is commonly used and has proven useful for most substrates encountered in SSG systems. Xylene and Toluene have also been found useful on many substrates.
- Use clean, white cloths free of lint or other lint-free wiping materials.
- Use a clean, narrow-blade putty knife when tooling structural silicone into the cavity.
- Use primer when required.

Cleaning Procedures

- Remove all loose material (such as dirt and dust), plus any oil, frost or other contaminants from the substrates to which the structural silicone will be adhered.
- Do not use detergent to clean the substrate as residue may be left on the surface.
- Clean the substrates receiving the sealant as follows: Using a two-rag wipe technique. Wet one rag with solvent and wipe the surface with it, then use the second rag to wipe the wet solvent from the surface BEFORE it evaporates. Allowing solvent to dry on the surface without wiping with a second cloth can negate the entire cleaning procedure because the contaminants may be re-deposited as the solvent dries.
- Change the cleaning rags frequently, as they become soiled. It is easier to see the soiling if white rags are used. Do not dip used wipe cloths into solvent as this can contaminate the solvent. Cleaning with contaminated solvent can result in sealant adhesion issues. Always use clean containers for solvent use and for solvent storage.
- When cleaning deep, narrow joints, wrap the cleaning cloth around a clean, narrow-blade putty knife. This permits force to be applied to the cleaned 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.

Primers

SS821 Silicone Structural Sealant 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. An evaluation should be made for each specific application/substrate to determine quality of bond. When properly used, primers help assure strong and consistent sealant adhesion to surfaces that may be difficult to bond. Most primers are a blend of organic and inorganic chemicals, resins and solvents. Obtaining the proper materials, as well as following the prescribed procedures, is vital to ensure the successful use of primers. **PRIMER APPLICATION IS NOT A SUBSTITUTE FOR SURFACE PREPARATION.** Consult Guangzhou Baiyun Chemical Industry CO., LTD. primer datasheet(s) for specifics and recommendations

for use.

CAUTION

Primers may contain solvents. When handling solvents, refer to manufacturer's MSDS for information on handling, safety and personal protective equipment.

Masking

- To simplify clean up of excess sealant, use easy to release, pressure sensitive tape to mask adjacent surfaces before applying the structural silicone sealant.
- Start from the top down and overlap the runs. Tool in direction of over-lap so that masking is not disturbed during tooling.
- Remove masking immediately after application of silicone or as soon as possible or practical.
- Drop cloths can be used to cover any surfaces likely to collect excess sealant removed during tooling operations.

STRUCTURAL GLAZING

Sealant Application

- Apply the sealant by pushing the bead ahead of the nozzle and making sure that the entire cavity is filled. Tooling should be done neatly, forcing the sealant into contact with the sides of the joint, thus helping to eliminate any internal voids and assuring good substrate contact. **AIR POCKETS OR VOIDS WITHIN THE STRUCTURAL CAVITY ARE NOT ACCEPTABLE.**
- Due to the smooth consistency of SS821 Silicone Structural Sealant, tooling agents such as water, soap or detergent solutions are not necessary or recommended. Dry tooling is recommended.
- Sealant application is not recommended when the temperature is below 50° F (10° C) or if frost or moisture is present on the surfaces to be sealed.
- SS821 Silicone Structural Sealant works best when applied to surfaces below 104° F (40° C).
- SS821 Silicone Structural Sealant should not be applied in totally confined spaces since the sealant requires atmospheric moisture from the air and release of cure by-products to cure properly and develop typical properties. In a typical SSG cavity, cure depths up to 3/4" from an air interface will generally cure satisfactorily and reach maximum properties within several days. Cure depths > 3/4" may take significantly longer time to cure and when applied in a single application may not cure satisfactorily. Please consult Guangzhou Baiyun Chemical Industry CO., LTD. technical services for additional information on depth of cure for this product.
- The cure rate of this product is dependent upon temperature and the availability of atmospheric moisture. Under Standard Conditions (relative humidity of 50 ± 5% at an air temperature of 73.4 ± 2° F [23 of ± 1° C]) this material can attain a cured thickness of 2-3 mm per 24 hours (assuming ample access to atmospheric moisture). As temperature decreases, the cure rate slows down (and vice versa).

Low moisture environments will also reduce the cure rate. Near-confined spaces which limit the overall access to atmospheric moisture will cure only from that surface which has access to the atmosphere. Colder temperatures can significantly increase cure times and can open the possibility of sealant irregularities if joint movement occurs while sealant is not fully cured. The following reference provides additional information on Movement-During-Cure of sealant joints: ASTM C1193 - Standard Guide for Use of Joint Sealants; section 12.5.

Method of Application

SS821 Silicone Structural Sealant can be dispensed directly from cartridges and foil sausage packs.

HANDLING AND SAFETY

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

USABLE LIFE AND STORAGE

When stored at or below 27°C (80°F) in the original unopened containers, this product has a usable life of 9 months from the date of manufacture.

PRODUCT SAFETY

Customers considering the use of any of Guangzhou Baiyun Chemical Industry CO., LTD. products should consult the latest Material Safety Data Sheets and labels for product safety information. Customers must evaluate Guangzhou Baiyun Chemical Industry CO., LTD. products and make their own determination as to fitness of use in their particular applications. For Material Safety Data Sheets contact the Guangzhou Baiyun Chemical Industry CO., LTD. sales office nearest you. Customers must ensure that all applicable federal, state, and local requirements have been met before handling any of the products mentioned in the text.

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 Guangzhou Baiyun Chemical Industry CO., LTD.'s 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.

Guangzhou Baiyun Chemical Industry CO., LTD.'s sole warranty is that the product

will meet the Guangzhou Baiyun Chemical Industry CO., LTD. sales specifications in effect at the time of shipment. 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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