

Product Information

Silicone Bonding Sealant

DOW CORNING

Dow Corning[®] 896 PanelFix for Panel Bonding

FEATURES

- High Strength Silicone similar to 2-part Dow Corning Silicone sealants
- 1-part moisture curing
- Provides Instant Green Strength directly after application
- Low squeeze-out
- UV- and weather -resistant
- Primerless adhesion to a wide range of mineral substrates, glass and metal
- Neutral cure
- Low odor
- Elastic Bonding Silicone
- Temperature stability over a wide range: -50°C to +150°C

BENEFITS

- Fast strength build up
- High durability due to temperature and UV resistance.
- For factory glazing and on-site application

1-part silicone with immediate initial strength for Panel bonding applications

APPLICATIONS

Dow Corning[®] 896 PanelFix for Panel Bonding is an elastic 1 part neutral curing silicone sealant specifically designed for panel bonding applications that require high durability and fast handling. It provides immediate strength directly after application. *Dow Corning* 896 PanelFix for Panel Bonding is a silicone which shows primerless adhesion to a variety of substrates such as anodized aluminum, glass and mineral substrates and provides high strength once fully cured. *Dow Corning* 896 PanelFix for Panel Bonding is not suitable for structural glazing applications.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test*	Property	Unit	Result
As supplied – uncured state			
CTM 97B	Specific gravity	g/ml	1.56
ASTM D2202	Flow (sag or slump)	mm	0
ASTM C 679	Tack-free time (23°C, 50% R.H.)	minutes	25-35
CTM 663A	Curing Time (23°C, 50% R.H.)		
	- after 24 hours	mm	1.9
	- after 72 hours	mm	4.1
CTM 1430	Immediate strength	Pa	>1400
As cured after 7 days at +23°C 2mm sheet (ISO 37)			
CTM 99A	Durometer hardness, Shore A	Points	46
CTM 137A	Modulus at 100% elongation	MPa	1.0
CTM 137A	Tensile strength at break	MPa	1.8
CTM 137A	Elongation at break	%	>450
Properties after 28d cure at 50% RH and +23°C			
ISO 8339	Elongation at break	%	>100
	Tensile strength	MPa	>1.0
	Service temperature range	°C	-50to+150

*CTM: Corporate Test Method, copies of CTM's are available on request.

ASTM: American Society for Testing and Materials.

ISO: International Standardization Organization

DESCRIPTION

Dow Corning 896 PanelFix for Panel Bonding is a one-part, neutral curing alkoxy silicone sealant specifically designed for non-glass facade applications to structurally bond two substrates together. Neutral alkoxy silicones cure at room temperature on exposure to water vapor in the air, giving off a small amount of alcohol (Methanol).

GREEN STRENGTH

Dow Corning 896 PanelFix for Panel Bonding provides high durability and immediate Green Strength directly after application. Once applied and fully cured, *Dow Corning 896 PanelFix* for Panel Bonding is able to withstand dynamic and permanent loads.

Please come back to our Dow Corning Technical Service Experts to calculate and define the correct joint dimension according to the final service life conditions.

The property of instant Green Strength can eliminate or decrease the usage of tapes for pre-fixing depending on the panel sizes. It is therefore able to enhance productivity, can save time and labor cost. *Dow Corning 896 PanelFix* for Panel Bonding provide very good durability and is superior to organic sealants due to its UV- and temperature resistance. The immediate Green Strength is about 4-5 times higher than standard sealant which gives additional safety during the production and assembly process.

High humidity level and higher temperatures accelerate the cure process and lead to earlier skin formation.

Green Strength is continuously building up during cure. Adhesion to the substrates is developed at the same time as product cures. Although the strength build up is quite fast, the sealant will develop its final properties once completely

cured. It is recommended to install the units only, once fully cured. In case the units are installed before complete cure, a suitable mounting aid such as specific tapes, may be required. 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. The joint thickness depends on the expected movement and the joint width depends on the applied dynamic and permanent loads. More specific information about bonding is available from our Technical Service.. For each bonding project separately and depending on customer requirements, Dow Corning 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.

COLOR

Dow Corning 896 PanelFix for Panel Bonding is available in white color.

HOW TO USE

Dow Corning 896 PanelFix for Panel Bonding is a ready to use silicone sealant. It provides excellent strength and adheres to a wide range of most common Panel Bonding materials such as mineral substrates, metal (anodized aluminum, stainless steel, etc.) and glass.

Dow Corning 896 PanelFix for Panel Bonding can be used for manual applications using a manual gun for cartridges or sausages. It is also suitable for semi-or even fully automated robotized applications.

Due to its low stringing, and High Green Strength, *Dow Corning 896 PanelFix* for Panel Bonding provides good ease of use,

workability and a higher compressive strength in an uncured state.

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. The initial Green Strength takes over initial loads, but to provide full strength and movement capability with elastic recovery it needs to be fully cured. Moisture has to migrate further to the already cured skin and as this skin becomes thicker, the reaction slows further down. The combination of initial Green Strength overlapping with the strength build up during cure makes the *Dow Corning 896 PanelFix* for Panel Bonding superior versus standard one part and silicone sealants.

As 1-part silicones need moisture to cure, the joint depth is limited to 14-15 mm as a maximum. Joints deeper than that will not completely cure. The deeper the joint is, the longer it takes to fully cure.

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. Solvent should be wiped on and off with clean, oil- and lint-free cloths. 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.

Dow Corning[®] R40 Cleaner is recommended for cleaning of metallic and glass surfaces. The ventilation time at room temperature should be at least 1

minute. Please contact your Dow Corning Technical Service Expert 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 *Dow Corning*[®] 1200 OS is in general recommended for metal substrates and *Dow Corning*[®] Primer P for mineral substrates. When priming, the ventilation time at room temperature is indicated on the Primer label.

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 Dow Corning Technical Department. Please contact your local Dow Corning Technical Service Engineer for further assistance.

Panel Bonding Application

Dow Corning 896 PanelFix for Panel Bonding offers good adhesion to most common substrates in the non-glass façade application such as mineral substrates, metal (e.g. anodized aluminum, stainless steel, etc.). Because of the variety of different substrates, compositions and suppliers, we strongly recommend to make a project specific test. Please contact Dow Corning Technical Laboratory Services to assist with this tests to prove long-term adhesion and durability. In a cured state, *Dow Corning* 896 PanelFix for Panel Bonding is compatible with most commonly used facade components. It is compatible to *Dow Corning*[®] Neutral curing Construction sealants.

It is important when selecting components within Panel Bonding Application to ensure adhesion and compatibility by carrying out

appropriate tests. Our Dow Corning Laboratory Service is ready to assist you.

As a one-part neutral curing system, moisture vapor/humidity is required for cure. Substrates have to be put together within the above stated tack free time before skin formation.

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. *Dow Corning* 896 PanelFix for Panel Bonding 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.

TECHNICAL SERVICES

Your Dow Corning contact

details (e-mails):

Technical inquiries:

eutech.info@dowcorning.com

Marketing:

construction.marketing@dowcorning.com

Quality Bond:

qualitybond@dowcorning.com

EHS inquiries:

europe.ehs@dowcorning.com

Reach inquiries:

reachsupport@dowcorning.com

Your Technical Service contact details (phone):

Toll Free Numbers:

From Belgium 0800 80 522

From France 0805 54 04 39

From Germany 0800 52 50 258

From Italy 800 92 83 30

From Spain 900 813161

From United Kingdom

0800 9172 071

All other countries:

For English +32 64 51 11 59

For French +32 64 51 11 59

For German +49 611 237503

For Italian +32 64 51 11 73

For Spanish +32 64 51 11 66

For Russian +7 495 725 43 19

Fax number from all

countries: +32 64 88 86 86

HANDLING

PRECAUTIONS

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 ON THE DOW CORNING WEB SITE AT DOW CORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

When stored at or below +30°C in the original unopened containers, *Dow Corning* 896 PanelFix for Panel Bonding has a usable shelf life of 12 months from the date of production.

PACKAGING INFORMATION

For manual application this product is provided in 310ml cartridges and 600ml sausages. Other container sizes on request possible.

LIMITATIONS

Dow Corning 896 PanelFix for Panel Bonding must not be used for structural glazing applications in façade or as a sealant for insulating glass units.

Because of the risk of incompatibility, *Dow Corning* 896 PanelFix for Panel Bonding must not come into contact with, or to be exposed to, sealants that liberate acetic acid.

Prior to use *Dow Corning* 896 PanelFix for Panel Bonding in fully automated bonding applications, it is recommended to contact Dow Corning Construction Industry Technical Service. Each project shall be specifically and separately approved by Dow Corning. 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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our Web site, dowcorning.com or consult your local Dow Corning representative.

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.

Dow Corning's sole warranty is that our products will meet the 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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