

ADSEAL DWS 4580 SERIES

WEATHERSEAL NEUTRAL CURE SILICONE ADHESIVE SEALANT

DESCRIPTION

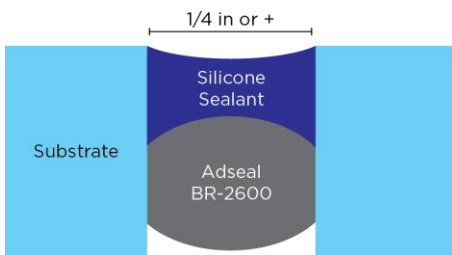
ADSEAL DWS 4580 SERIES is a one-component sealant/adhesive that cures to a durable elastic rubber silicone in contact with ambient humidity. Due to its rheological and non-sagging characteristics, it can be applied above the head, on vertical and horizontal surfaces. ADSEAL DWS 4580 SERIES adheres to glass, most types of wood, clean metals, fibreglass, silicone resins, ceramics, vulcanized silicone, synthetic and natural fibers, and many painted surfaces (Validate with your representative) or certain plastics. Additionally, ADSEAL DWS 4580 SERIES adheres well on masonry. The use of a primer might be necessary. Always perform an adhesion test before starting work. ADSEAL DWS 4580 SERIES will not crack, degrade, lose volume, or change consistency if used within the parameters listed in the physical properties section. **Although ADSEAL DWS SERIES 4580 is dry after 24 hours (for a 1/8" [3.2mm] open bead), ADFAST requires that the product cure completely for 28 days at 23 °C (73 °F) 50% R.H. when used in food processing plants or in clean rooms (indirect contact).**

ADSEAL DWS 4580 SERIES CAN NOT BE PAINTED.

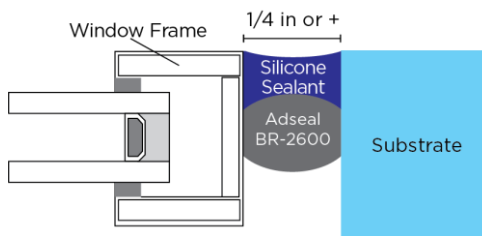
Due to its neutral curing system, ADSEAL DWS 4580 SERIES is used for caulking applications or when a slower working time is required. ADSEAL DWS 4580 SERIES is also used for general sealing, caulking and electrical insulation applications. It does not give off any unpleasant odor during curing and will not oxidize the metal (discoloration of copper-based metals may occur when sealed tightly). Due to its curing system in contact with moisture, the depth of the bead should not exceed 13 mm (1/2"), otherwise the sealant cannot cure completely. It is recommended to respect a 2:1 ratio (width / depth) bead as possible. For applications with a bead depth of more than 13 mm, we recommend a two components silicone. The minimum size of a movement or a waterproofing joint should be 1/4" x 1/4" as shown in the drawings below. When completely cured, ADSEAL DWS 4580 SERIES is resistant to permanent temperatures of -40°C to 232°C (-40°F to 450°F) and intermittent temperatures of -51°C to 260°C (-60°F to 500°F).

Movement joints

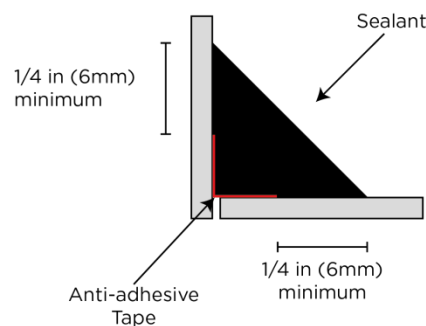
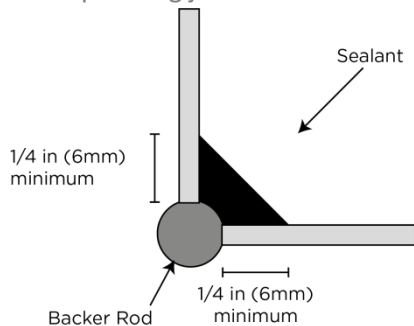
Expansion Joint



Perimeter Seal



Waterproofing joints

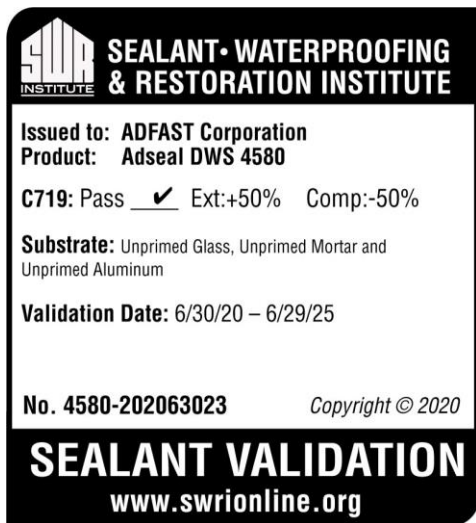


When it is not possible to use a conventional backer rod (ADSEAL BACKER ROD), it is recommended to use an anti adhesive tape.

ADSEAL DWS 4580 SERIES WEATHERSEAL NEUTRAL CURE SILICONE ADHESIVE SEALANT

SPECIFICATIONS

- Meets ASTM C1184 for two-sided structural glazing
- Meets ASTM C920, type S, NS grade, class 50 (excluding translucent version 4581), use NT, M, G, A, O.
- Meets AAMA 802 and 805 standards
- Meets American Federal Specifications TT-S-1543A, class A and TT-S-00230C, class A, type II
- CFIA accepted
- V.O.C. emission **UL 1000612730-2046923**: CDPH/EHLB/Standard Method V1.2 (January 2017) "Standard Method for Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" (aka CA Section 01350). Reference LEED V4
- Complies with FDA 21CFR177.2600 (indirect contact / open joint)



LIMITATIONS

- Not design for structural applications on painted surfaces.
- Structural adhesion to bare metal or surfaces subject to corrosion.
- Not designed for permanent immersion joints
- Where the sealant is encapsulated and does not have access to ambient humidity
- In contact with strongly acidic or alkaline products
- Not designed for traffic joints
- Not recommended for joint less than 1/4 " or 6 mm. (width and depth)

PHYSICAL PROPERTIES

Uncured @ 23°C (73°F) 50% R.H			
Test Description	Standard	U/M	Result
Appearance			Pasty
Color			Available in a wide variety of colors (special colors upon request)

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Density	ASTM D1475	g/ml	1.03 (translucent) 1.32 (colors)
V.O.C. (SCAQMD Method)	SCAQMD Rule 1168	g/L (%)	19.5 (1.9) (translucent) 47.5 (3.6) (colors)
Extrusion rate (20 psi/diameter 5mm) translucent	ASTM C1183		75 – 300
Extrusion rate (50 psi/diameter 5mm) colors	ASTM C1183	g/minute	75 – 200
Tack free time	ASTM C679	Minute	25 – 30
Rheological properties	ASTM C639	Inch	No sag
Curing time		Day	7 to 14
Full adhesion		Day	14 to 21
Shelf life		Months	24

Cured 21 days at 23°C (73°F) / 50% R.H.)

Test Description	Standard	U/M	Result
Hardness (shore A)	ASTM D2240	Point	28 (translucent) 30 (colors)
Elongation at break	ASTM D412	%	1125 (translucent) 1009 (colors)
Maximum Tensile strength	ASTM D412	PSI	195 (translucent) 197 (colors)
Tensile strength at 100% elongation	ASTM D412	PSI	27 (translucent) 57 (colors)
Tear Strength (Die C)	ASTM D624	PPI	30
Stain or color change	ASTM C510		None
Tensile adhesion strength at 25% elongation	ASTM C1135	PSI	44
Tensile adhesion strength at 50% elongation	ASTM C1135	PSI	60
Maximum elongation	ASTMC1135	%	263
Maximum tensile adhesion strength	ASTM C1135	PSI	95
Peel strength	ASTM C794	PPI	24
Movement capability	ASTM C719	±%	50 (excluding translucent version 4581)
Staining on porous surfaces	ASTM C1248		None on granite, marble, limestone, brick, and cement
Lap Shear	ASTM D1002	PSI	90 (translucent) 111 (colors)

APPLICATION

Construction

- Interior and exterior fenestration, curtain walls and siding joints
- Bedding joints for sealed units
- Corner block (curtain wall)
- Expansion joints (masonry) (test with and without using primer before doing the complete work)
- Anodized aluminum structural joints for 2-sided curtain walls
- Cold room
- Clean room
- Ventilation
- Fiber cement siding

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Industrial

- HVAC
- Transportation vehicles
- Refrigerated counters
- Manufactured doors and windows
- Sealing electrical insulation units
- Bonding the cylinder head gaskets of refrigeration and heating units
- Bonding hooks and nameplates without screws and plastic materials to metal
- Sealing of trailers and truck cabs
- Assemble and seal parts of household appliances
- Anti-slipcover
- Sealing cabins and marine windows

SURFACE PREPARATION

Surfaces must be free of dust, grease, frost, or any other contaminant. Clean surfaces with ADSEAL CLEANER 6003. Allow to evaporate for 20 minutes before applying ADSEAL DWS 4580. For porous surfaces, mechanical cleaning may be necessary during repair work. In some cases, ADSEAL DWS 4580 may require the use of a primer. If this is the case, use ADSEAL PRIMER. For the complete procedure and the type of primer to use, consult our [ADSEAL PRIMER Guide](#). The use of ADSEAL BACKER ROD is recommended for a movement joint. If there is insufficient space for the use of backer rod, we strongly suggest the use of non-stick tape. For more details consult our document: [Surface Preparations](#)

When ADSEAL DWS 4580 SERIES is used in a horizontal 2-sided or 4-sided curtain wall as a perimeter joint sealant always use ADSEAL SETTING BLOCK to avoid sealant color contamination. For more information, consult your technical representative.

METHOD OF USE

ADSEAL DWS 4580 SERIES is easy to apply with a conventional manual, electric or pneumatic applicator (do not exceed 45psi for a cartridge). Shape the sealant bead with the ADSEAL TOOLING KIT before skin formation. In order, to facilitate the work, the shaping can be done with a solution of 5% clear dish soap and 95% water. Dip the ADSEAL TOOLING KIT into the solution. Avoid applying solution directly to the sealant. The use of this solution may reduce sealant adhesion if used in an abusive manner. Uncured sealant can be cleaned with a solvent such as mineral spirit. Bead surface contact should be at least 1/4". ADSEAL DWS 4580 SERIES can be applied at temperatures as low as -20°F (-29°C). For more details consult the technical document: [Application Procedure for Sealant Movement and Waterproofing Joint](#)

APPLICATION TEMPERATURE (MOVEMENT DURING CURING)

ADSEAL sealants (silicone or hybrid) can be applied all year round, even in winter, unlike organic sealants such as polyurethanes or thermoplastics. Never apply sealants in rain, freezing rain, snow, or heavy fog. Make sure the surface is free of dust, grease, frost, or other contaminants. The temperature of the sealant (silicone or hybrid) must be the same as the substrate. Avoid applying a warm sealant to a cold surface. The colder the temperature, the longer it will take for the sealant to form a skin and cure.

*****Sealants cure from the outside in. If there is movement of the joint during the first few hours of installation, due to large fluctuations in ambient temperature (when temperatures pass through the freezing point), there will be expansion and contraction of the materials (thermal expansion), creating a risk of cracking or wrinkling/swelling at the joint.**

To reduce this impact, we recommend:

- Use an open-cell polyurethane backer rod.
- Install the sealant when temperature variation is minimal.

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- Ensure that the joint width / depth does not exceed a ratio of 2:1 or 12 mm (1/2") wide by 6 mm (1/4") deep at the center of the backer rod.
- The use of a primer such as ADSEAL Primer 6601 or 6602 can accelerate adhesion development. Although this step is not necessarily recommended, it can help establish the success of the project in the event of excessive movement of the joint during curing.

PACKAGING

- 304ml (10.4 oz) cartridge
- 600ml (20 oz) sausage
- Pail
- Drum

STORAGE

Store the sealant in closed original packaging. Store in dry premises at a temperature between 8°C (46°F) and 25°C (77°F). High humidity and storage below or above these temperatures will shorten shelf life. Expiration date is indicated on each container. Storage beyond the date specified on the container does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality insurance reasons. Contact our technical service.

CAUTION

Always consult SDS (Safety Data Sheet) before using the product. Apply usual hygienic rules. Always test the product on your application before use. For industrial use only. For more information, please contact your technical representative.

IMPORTANT**READ CAREFULLY**

The information and recommendations contained herein are derived from our research and information from other reliable sources. This data applies only to our products and not when used with other products. We believe in the reliability of our information. However, no guarantee is offered to that effect. It is the responsibility of the buyer to verify this data according to their own operating conditions to ensure that they conform to the purpose for which the product is intended, even before using it.

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