



Sealants

Bluestar Silicones. Delivering Your Potential.

BLUESTAR
SILICONES

Two sealant technologies available:
Acetic and Alcoxy.

What are the differences?



Acetoxy technology

This family of silicone sealants was the first created, and they dominate the world of silicone sealants because of their extensive use as construction sealants in buildings in such applications as expansion joints, window installations, etc. As the name suggests, the by-product of cure is acetic acid. The formation of acetic acid places a restriction on their use in applications where non-corrosion is a prerequisite.

Bluestar Silicones' range:

Acetic general purpose: DIY, sanitary

Acetic high performance: glazing, construction joints

Acetic specialities: aquariums, structural glazing

Alcoxy technology

The alcoxy technology is based on an alcohol curing mechanism. These sealants are completely neutral and do not react with metals (copper and its alloys etc.). They also exhibit excellent primerless adhesion to many types of substrates.

Bluestar Silicones' range:

Alcoxy filled high performance: construction joints, glazing...

Alcoxy unfilled multi purpose: glazing, construction joints, DIY



Selection and application of Bluesil™ silicone sealants

How to choose a sealant

If joint movement is important, a low modulus sealant should be used in order to minimise the stress on the joint. A high modulus sealant should be used when the joint forms part of the load bearing structure.

Surface preparation

In order to maximise the adhesion, substrates should be clean, dry and free of dust, grease or any other contaminants. Degreasing can be undertaken by wiping with a cloth soaked in an appropriate solvent and then wiping again with another clean cloth. Note: do not clean surface with detergent or soap, residues may affect adhesion. To remove dust, use oil-free compressed air.

Testing

It is essential for the sealant to adhere strongly to the substrates and to remain compatible with these substrates under all application conditions. Tests should be conducted simulating the intended application.

Joint dimensions

In general, the width should be twice the depth. However, it may be necessary to take into account local regulations or comply with dimensions which have been specified.

Application

Tooling should be completed within the skin formation time of the sealant. Excess uncured sealant can be removed using a dry or soaked cloth (soaked in an appropriate compatible solvent). Cured sealant can be removed by scraping or by the use of Bluesil™ Silicone Remover.

Type	Range	Standards colour	Main properties	Primerless adhesion	Glazing	Structural glazing
Acetic	3B	Translucent, white, black	High performance glazing sealant	Only on glass and vitreous surface	▲	
	3E	Translucent, white, black	General purpose sealant	Only on glass and vitreous surface		
	3S	Translucent, white	Especially for all sanitary joints	Only on glass and vitreous surface		
	Aquarium	Translucent, black	Especially for sealing and bonding aquarium	Only on glass		
	VEC 90	Black	Especially for structural glazing	Only on glass		▲
	VEC 99 (A/B)	Black	Especially for structural glazing	Only on glass		▲
Alcoxy	10B	Off white, PVC white	High performance construction joints	Mostly everything	▼	
	10T	Off white, PVC white	Made for door and window frames	Mostly everything except PMMA and some PVC	▼	
	Novart	Translucent, white	Multi purpose sealant	Mostly everything except PMMA and some PVC	▼	

▲ Highly recommended

▼ Also recommended

These figures are only intended as a guide and should not be used in preparing specifications

Type	Range	Properties before curing				Curing kinetics	
		Specific gravity (ISO R 1183) Kg/L	Flow resistance (ISO 7390) mm	Viscosity (strain at 3000 N /m ²) Pa.s	Extrusion (ISO 8394) g/min	Skin formation time min*	Tack free time (ASTM C 679) min*
Acetic	3B	1.04	0	320	40	7	20
	3E	0.97	1	-	150	9	20
	3S	0.97	1	-	150	9	20
	Aquarium	1.04	0	320	40	7	15
	VEC 90	1.03	0	300	35	6	20
	VEC 99	Part A: 1.03 Part B: 1.12	1	-	-	2	11
Alcoxy	10B	1.38	2	200	45	10	-
	10T	1.38	1	330	45	16	90
	Novart	1.01	0	140	60	7	35

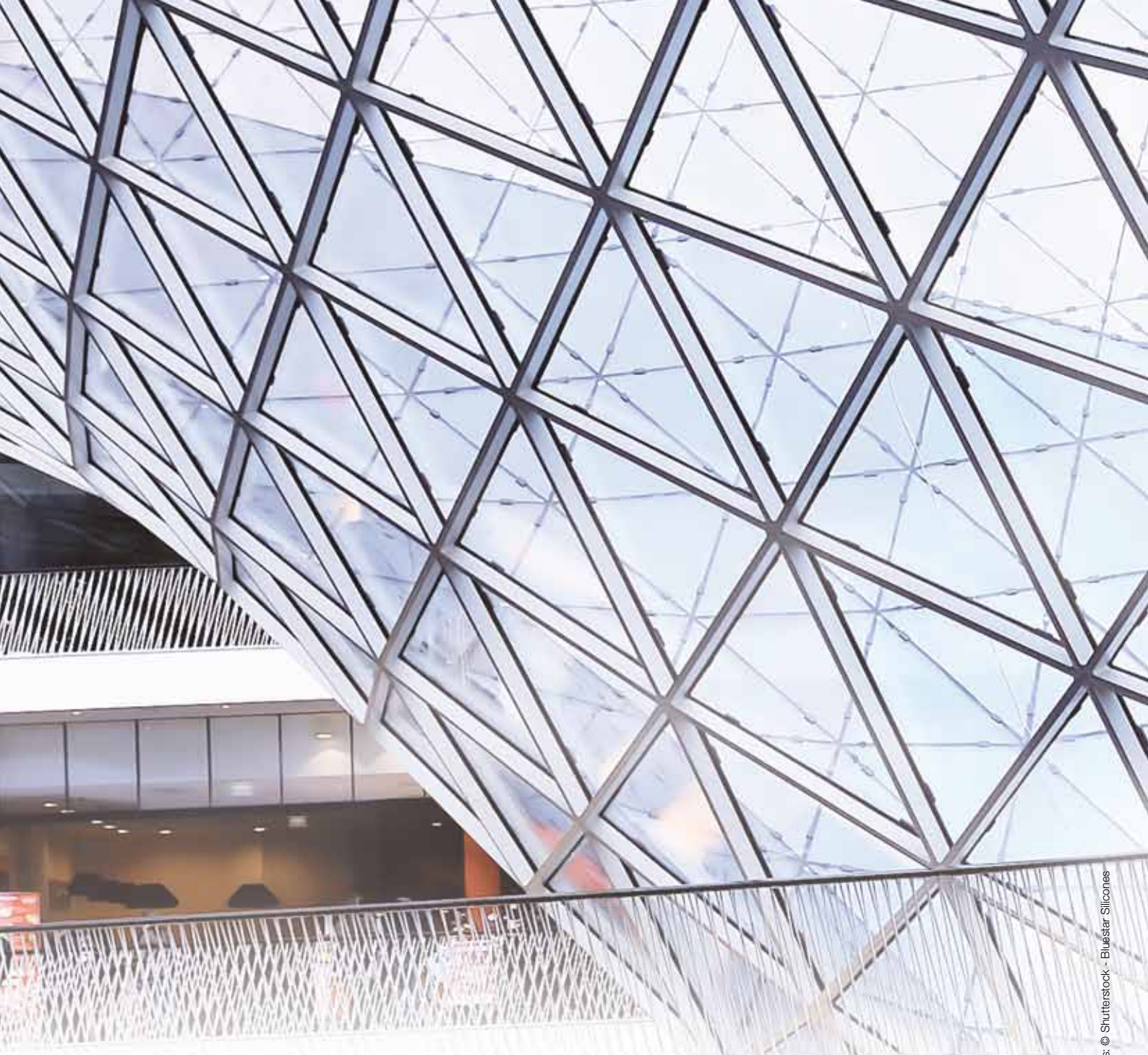
* at a temperature of 23°C and relative humidity of 50%.

Applications included (but not limited to)

Construction joints	DIY general	Plumbing	Sanitary	Swimming pool	Aquarium	Packaging
▼	▼	▼		▼		Big Bag Drums
	▲	▼				Drums
		▼	▲			Big Bag Drums
					▲	Drums
						Big Bag Drums Pails
						Drums Pails
▲	▼	▼				Big Bag Drums
▲	▼	▼				Big Bag Drums
▲	▼	▼				Big Bag Drums

After curing

Shore A hardness, (ISO 868)	Elastic recovery (ISO 7389)	Joint movement capability	Modulus at 100% (ISO 8339) MPa	Tensile strength (ISO 8339) MPa	Elongation at break (ISO 8339)
23	100%	25%	0.60	1.0	300%
18	95%	12.5%	0.40	0.7	200%
18	95%	12.5%	0.40	0.8	180%
24	100%	25%	0.55	1.2	250%
25	>95%	-	0.48	1.0	250%
25	>95%	-	-	1.2	220%
25	> 85%	25%	0.35	0.45	400%
22	80%	25%	0.35	0.50	350%
20	> 85%	25%	0.30	0.50	280%



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