CEMEDINE

Products

Company Information
Products
Super-X Series
Elastic Adhesive
Epoxy Resin Adhesive
Instantaneous Adhesive
Reactive Acrylic Adhesive
Emulsion Adhesive
Hot Melt Adhesive
Elastomer Adhesive
Thermoplastic Resin Adhesive
Adhesive and Filler having special functions
Sealer
Applicator

Super-X Series

Super-X No.8008

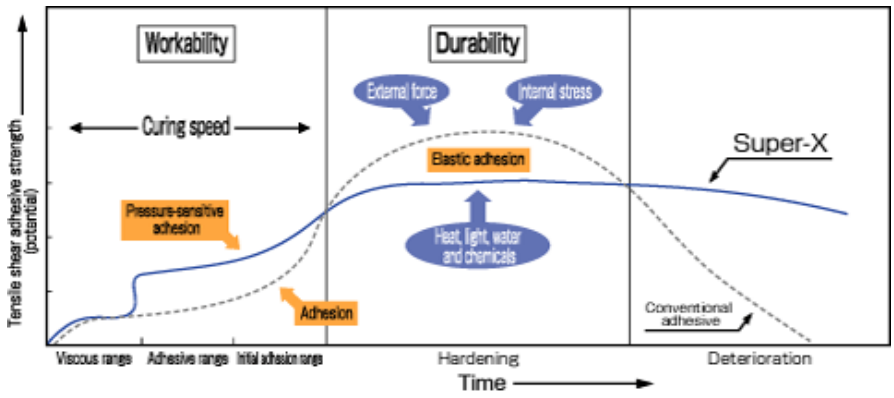


Cemedine Super-X is an epoch-making one-part quick curing adhesive having three significant features which are said to be ideal properties of the adhesives; "pressure-sensitive adhesion", "elastic adhesion" and "solventless adhesion".

Features

1. Pressure-sensitive adhesion	Curing reaction is caused by moisture absorbed from the air. Pressure-sensitive range is reached in this curing process about 10 min. after application. If adherends are put together during this time, they bound instantaneously as in the case of rubber contact adhesive, eliminating the need for temporary fixation.
2. One-part solventless agent providing quick curing at normal temperature	Easy-to-use, safe, and clean adhesive featuring one-part solventless agent capable of quick curing at normal temperature is provided.
3. Adhesive property over an extensive range	Super-X products allow for adhesion of various types of plastics, rubbers and ceramics over an extensive range, moreover different types of metals. These products provides excellent adhesion over a very extensive range of materials, eliminating the need for selecting a particular adhesive for each type of the different materials, as in the case of conventional agents.
4. Durability	The Super-X as elastic adhesives do not peel off. Once materials are adhered, the Super-X provides durability in the range from low temperature (-60°C) to high temperature (120°C). Because of the rubber state of the hard film, the Super-X follows the changes of adherents such as expansion and shrinkage sufficiently.

Super-X conceptual diagram



Application

- Adhesion required to have initial adhesive strength
- Adhesion of different types of materials having different thermal expansion coefficients
- Adhesion required to have durability due to repeated heating, cooling and vibration
- Electrical contact failure countermeasure product

Adhesive strength for various types of adherends

Classification	Adherend	Tensile shear adhesive strength after 7-day curing (N/mm^2)	
		Open time, 3 min.	Open time, 25 min.
Metal	Steel plate (SPCC, SPCD)	3.92	3.92
	Aluminum (*1)	4.21	4.12
	Stainless steel	4.21	3.92
	Copper	4.51	4.21
Plastics	Polycarbonate	4.31	3.23
	Bakelite	4.21	54.02
	ABS	2.45	1.96
	Plasticized polyvinylchloride	3.92	3.14
	Styrene	2.74	2.25
	Acryl	2.94	2.16
	6-nylon	2.84	2.65
	FRP (*2)	4.02	2.94
	Polyethylene foam (*3)	0.98	-
	Polypropylene (*4)	2.45	-
	PEEK (polyether ketone)	3.14	-
	PES (polyether sulfone)	3.82	-
	PSF (polysulfone)	3.53	-
	PET (polyethyleneterephthlate)	1.67	-
	PPS (polyphenylene sulfide)	3.72	-
	PPO (polyphenylene oxide)	4.41	-
	PAR (polyarylate)	4.12	-

	Oxybenzoyl polyester	2.25	-
Others	Slate	1.86	1.67
	Plywood	2.65	3.14

Conditions: Coated on both sides, 50μm thick (one side), tension speed between adherends: 50mm/min.

Note:
*1 and *2: Surface preparation will cause adhesive strength to become uneven; it must be confirmed in advance.
*3: Surface preparation by exposure to ultraviolet ray.
*4: Primer (Cemedine PP-5) to be used.

Adhesive strength for various types of rubbers

Classification	Adherent	Peeling adhesive strength after 7-day curing (N/mm)
Rubber	Natural rubber	0.88 Substrate failure
	NBR	2.36 Cohesion failure
	Silicone rubber	0.84 Substrate failure
	SBR	2.36 Substrate failure
	EPDM	0.80 Adhesion failure
	EPDM (*)	2.36 Cohesion failure
	Chloroprene rubber (CR) (*)	0.72 Adhesion failure
	CSM (chlorosulfuric oilyethylene) (*)	0.56 Adhesion failure

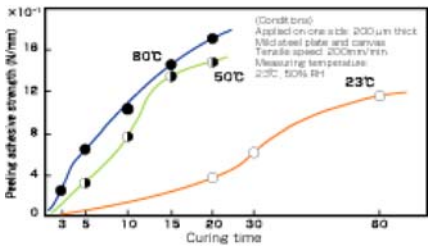
(*): Degreasing by toluene after treatment by sand paper (#120).

Chemicals resistance

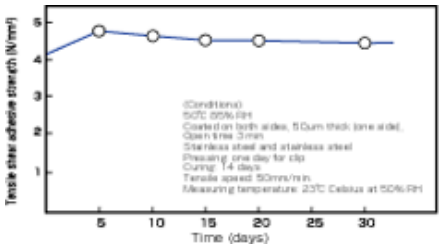
Chemicals	Tensile shear strength after dipping in chemicals (N/mm^2)
Unprepared	4.31
Water	3.63
Acetic acid (1% water solution)	3.72
Acetic acid (10% water solution)	1.96
Sulfuric acid (3% water solution)	4.41
Sulfuric acid (30% water solution)	4.02
Sodium hydroxide (1% water solution)	4.41
Sodium hydroxide (10% water solution)	4.51
Machine oil (Idemitsu: Mechanic Oil)	4.21
Salt (10% water solution)	4.31
Methylethylketone (*)	0.29
n-hexane (*)	0.78

(Conditions): Coated on both sides, 50μm thick (one side), open time 3 min.
Stainless steel and stainless steel Pressing: one day for clip Curing: 7 days
Number of days to be dipped in chemicals: 7 Tensile speed: 50mm/min.
* Deterioration of solvent is observed, but no problem with short-time contact, for example, in washing.

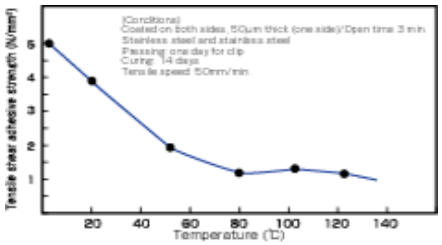
Initial curing speed



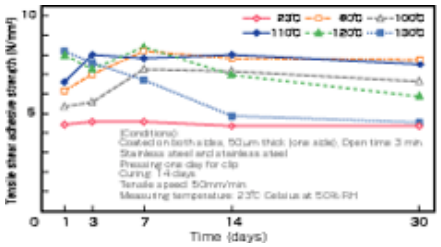
Tensile shear adhesive strength, after repeated heating and cooling



Tensile shear strength on each temp



Tensile shear adhesive strength after heat aging

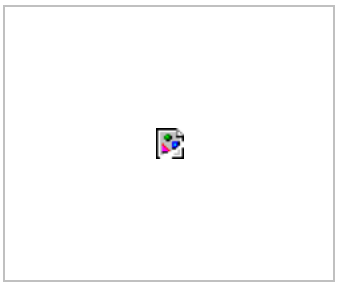


List of Super X Adhesives

Product name		Super X No.8008 (RoHS)	Super X No.8008 black (RoHS)	Super X No.8008 clear (RoHS)	Super X No.8008 Lblack (RoHS)	Super X No.8008 LLblack (RoHS)
Main component		Special polymer containing silyl group	Special polymer containing silyl group	Special polymer containing silyl group	Special polymer containing silyl group	Special polymer containing silyl group
Appearance		White paste	Black paste	Light yellow translucent paste	Black paste	Black paste
Viscosity (Pa・s/23°C)		90	90	65	24	14
Specific gravity (g/cm^3)		1.26	1.26	1.07	1.24	1.21
Tack free time		11	11	8	11	11
Tensile shear adhesive strength (N/mm^2)		3.7	3.7	3.4	3.2	2.9
T type peeling adhesive strength (N/mm)		2.5	2.5	1.7	2.4	1.8
Curing properties	Hardness (Shore A)	48	48	49	39	3.4
	Glass transfer point (°C)	-63	-63	-64	-68	-61
	Breaking strength (N/ mm^2)	1.8	1.8	1.6	0.9	0.7
	Breaking extension (%)	220	220	150	300	275
	Linear expansion coefficient	2.1×10^{-4}	2.1×10^{-4}	1.8×10^{-4}	2.4×10^{-4}	3.6×10^{-4}
	Volume resistivity (Ω・cm)	1.1×10^{12}	4.7×10^{11}	1.3×10^{12}	1.2×10^{12}	1.0×10^{12}

Electric characteristics	Dielectric constant (100Hz)	6.15	7.07	3.89	6.99	6.56
	Dielectric loss tangent (100Hz)	0.22	0.34	0.11	0.24	0.25
Formaldehyde grade		JAIA F☆☆☆☆	JAIA F☆☆☆☆	JAIA F☆☆☆☆	JAIA F☆☆☆☆	JAIA F☆☆☆☆
Capacity standards		170g 333ml	170g 333ml	333ml	170g 333ml	333ml

Adhesive for electrical components SX720 (W, WH, B, and BH)



1. Nonflammable product (UL94V-0 listed). (File No.E178790)
2. One-part elastic adhesive capable of curing at normal temperature and humidity.
3. Quick initial adhesion, high tack power for various types of materials, and excellent durability.
4. Safe and global environment-friendly adhesive.
5. Electrical contact failure countermeasure product.

- Contains no low molecular siloxane component.
- Employs no halogen-based, antimony oxide, or phosphorus-based materials.
- Employs no volatile solvents.

Application

- Fixing of circuit boards such as condenser and coil
- Sealing of power supply and transformer for insulation
- Sealing of electronic components for waterproofing

List of SX720 Adhesives

Product name		SX720W (RoHS)	SX720WH (RoHS)	SX720B (RoHS)	SX720BH (RoHS)
Main component		Special polymer containing silyl group	Special polymer containing silyl group	Special polymer containing silyl group	Special polymer containing silyl group
External appearance		White paste	White paste	Black paste	Black paste
Viscosity (Pa･s/23°C)		45	85	45	85
Specific gravity (g/cm^3)		1.56	1.57	1.56	1.57
Tack free time		10	8	10	8
Tensile shear adhesive strength (N/mm^2)		3.4	3.2	3.4	3.2
T type peeling adhesive strength (N/mm)		1.0	1.0	1.0	1.0
	Hardness (Shore A)	78	81	78	82
	Glass transfer point (°C)	-64	-69	-63	-69
	Breaking				

Curing properties	strength (N/mm^2)	3.4	3.2	3.4	3.2
	Breaking extension (%)	100	50	100	50
	Linear expansion coefficient	1.1×10^{-4}	7.3×10^{-5}	8.7×10^{-5}	8.1×10^{-5}
Electric characteristics	Volume resistivity (Ω・cm)	2.1×10^{12}	1.7×10^{12}	2.3×10^{12}	1.4×10^{12}
	Dielectric constant (100Hz)	6.2	5.9	6.6	6.2
	Dielectric loss tangent (100Hz)	0.23	0.31	0.27	0.28
Thermal conductivity (W/m・k)		0.91	0.92	1.09	1.00
Capacity standards		200g 333ml	200g 333ml	200g 333ml	200g 333ml

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