

Fujipoly Data Sheet

SARCON® XR-Um series

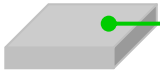
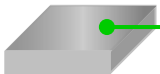
Highest Thermally Conductive Putty Type

FEATURES

Highest Thermally Conductive and Non-Flammable interface materials.

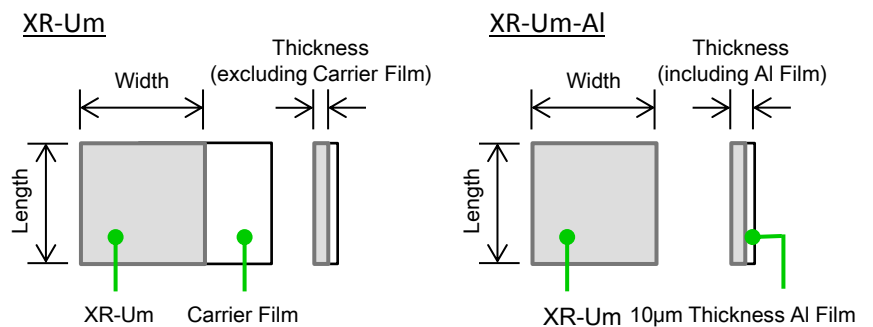
SARCON® Highest Thermally Conductive Putty Type is a customer friendly material due to its easy application by printing. The material's putty nature greatly contributes to reduction of contact resistance and consequently to its low thermal resistance. Then this material has a flame retardancy of UL 94 V-0 and a very Low Molecular Siloxane content. Putty-AL type has one surface with aluminum film.

CONSTRUCTIONS

Series	Characteristics	Constructions
SARCON® XR-Um	Silicone compound with double sticky surfaces and Thermal Conductivity of XR-v material is 17.0W/m-K by using GHP (11.0W/m-K by using Hot Disk)	 Plain Type
SARCON® XR-Um-AI	Silicone compound as above XR-Um plus 10µ m Aluminum Film, which enables users to remove the carrier film after installation (before operation) with no-pull-out effect	 Aluminium Film

XR-Um / XR-Um-AI

Item	Size (mm)	Tolerance (mm)
Width	10.0 to 50.0	±1.5
Length	10.0 to 50.0	±1.0
Thickness	20X-Um	0.22 ±0.04
	30X-Um	0.30 ±0.06
	40X-Um	0.40 ±0.08
	50X-Um	0.50 ±0.10



THERMAL RESISTANCE

Unit : K-cm²/W (K-in²/W)

Compression Force	20X-Um	30X-Um	50X-Um	20X-Um-AI	30X-Um-AI	50X-Um-AI
100kPa(14.5psi)	0.2 (0.02)	0.2 (0.03)	0.4 (0.06)	0.3 (0.04)	0.4 (0.05)	0.5 (0.08)
300kPa(43.5psi)	0.1 (0.02)	0.2 (0.03)	0.3 (0.05)	0.3 (0.04)	0.3 (0.04)	0.4 (0.06)
500kPa(72.5psi)	0.1 (0.02)	0.2 (0.02)	0.3 (0.04)	0.2 (0.03)	0.3 (0.04)	0.3 (0.05)

Test method: Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent
 • Specimen Area; DIA.33.0mm (1.30in)

TYPICAL PROPERTIES

Properties		unit	XR-Um		Test method	Specimen
Physical Properties	Color	-	Light Gray		Visual	-
	Specific Gravity	-	3.2		ASTM D 792	A
Electrical Properties	Dielectric Constant	-	50Hz	9.49	ASTM D 150	A
			1kHz	8.19		
			1MHz	7.71		
	Dissipation Factor	-	50Hz	0.1800	ASTM D 150	A
			1kHz	0.0516		
			1MHz	0.0047		
Thermal Properties	Thermal Conductivity	W/m-K	17.0 by GHP		ASTM D 5470	-
			11.0 by Hot Disk		ISO/CD 22007-2	
	Useful Temperature	°C (°F)	-40to+150 (-40to+302)		-	-
	Low molecular Siloxane	wt%	D ₄ to D ₂₀ Total	0.0010 or less	Gas Chromatographic	-
	Flame Retardant	UL94	V-0*		UL 94	-

• Test methods of Thermal Conductivity are based on Fujipoly Test Method, FTM P-1612 by Hot Disk and FTM P-3030 by GHP(Guarded Hot Plate).

* XR-Um-AI : V-0 equivalent • Specimen A: 2mmT

DURABILITY

Unit : K-cm²/W

Test Property	Specimen	120°C				150°C			
		Initial	250hrs	500hrs	1,000hrs	Initial	250hrs	500hrs	1,000hrs
Thermal Resistance	20X-Um	0.20	0.17	0.19	0.21	0.20	0.26	0.26	0.26
	40X-Um	0.29	0.30	0.30	0.30	0.29	0.31	0.35	0.37

Test Property	Specimen	85°C/85%RH				-40°C(30min)⇔+125°C(30min)			
		Initial	250hrs	500hrs	1,000hrs	Initial	250hrs	500hrs	1,000hrs
Thermal Resistance	20X-Um	0.20	0.20	0.22	0.22	0.20	0.18	0.19	0.19
	40X-Um	0.29	0.28	0.28	0.30	0.29	0.29	0.28	0.31

Test method: Measured by GHP (Guarded Hot Plate) method according to ASTM D5470 modified

- Specimen Area; 15mm square
- Specimen is sandwiched between aluminum blocks.

reduced temperature

- 40°C = -40°F
- 85°C = 185°F
- 120°C = 248°F
- 125°C = 257°F
- 150°C = 302°F

HANDLING METHOD for XR-Um series

Step-1



• Peel the product with Carrier Film off from PET Film

Step-2



• Apply onto Heat Sink

Step-3



• Roll twice on the film to attach to heat sink

Step-4



• Peel off instantly the PET film to horizontal direction

HANDLING NOTES

- It is recommended to use the material in up to 30% of compression ratio. Using the material beyond the recommended compression rate may result in excessive silicone oil exudation.
- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

WARRANTY STATEMENT

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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