BLUESIL ESA 7250 A&B E5

Description

BLUESIL ESA 7250 A&B E5 is a two component, optically clear, high strength silicone elastomer. This silicone elastomer cures by a polyaddition reaction at room temperature. Curing can be accelerated by heating.

Examples of applications

- It is particularly suited for potting applications or wherever a tough, elastic and transparent protection is required.
- Protection of electronic components and electrical engineering equipment by encapsulation or filling.
- Opto-electronic connections.
- Insulating photovoltaic cells.

Key benefits

- Optically clear.
- High strength silicone elastomer.
- Good pourability, for easy filling.
- Possibility to adding fillers.

Typical properties

1. Before curing

Properties	BLUESIL ESA 7250 A E5	BLUESIL ESA 7250 B E5
Physical state	Slightly viscous liquid	Slightly viscous liquid
Appearance	Clear	Clear
Color	Colorless	Colorless
Specific gravity *at 25°C, approx.*	1.02	1.02
Viscosity *at 25°C, mPa.s, approx.*	4 000	750

2. Mixing of the two components

Properties	BLUESIL ESA 7250 A&B E5
Mixing ratio A:B (by weight)	10 : 1
Viscosity *at 23°C, mPa.s, approx.*	4 000
Pot life *at 25°C, hours, approx.*	4
Gelnorm at 50°C *min, approx.*	40

The elastomer can be handled after 24 to 48 hours at room temperature.

3. Cured compound

Mechanical properties after curing 1 hour at 150°C

Properties	BLUESIL ESA 7250 A&B E5
Shore A Hardness, on 6 mm thick specimen *(ASTM D 2240), approx.*	52
Tensile Strength, MPa, on 2 mm thick film *(NF T 46002), approx.*	6.2
Elongation at break, %, on 2 mm thick film *(NF T 46002), approx.*	115
Tear Strength, kN/m, on 2 mm thick film *(ASTM D624 D), approx.*	4

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4. Physical properties

Linear shrinkage *after curing 1 hour at 150°C, %, approx.*	1.2
Refractive index, n^{25} , *approx.*	1.406
Volume expansion coefficient K^{-1}, *approx.*	$9{,}9.10^{-4}$
Thermal conductivity *W/(m.K), approx.*	0.16
Brittle point *(ASTM D 746) ,°C, approx.*	-70
Peak thermal withstand,°C, *approx.*	+200
Flammability classification	UL 94, HB, 1.0 ; 1.5 ; 3.0 mm

5. Dielectric properties

Dielectric Strength *(IEC 60243), kV/mm, approx.*	20
Dielectric constant at 1 kHz *(IEC 60250) approx.*	2.7
Dielectric dissipation factor at 1 kHz *(IEC 60250), approx.*	1.10^{-3}
Volume resistivity *(IEC 60093), W.cm, approx.*	1.10^{15}

Please note: The typical properties are not intended for use in preparing specifications. Please contact our local Sales Department for assistance in writing specifications.

Instruction of use

Mixing guidelines:

1. Add 10 parts of **BLUESIL ESA 7250 B E5** to 100 parts of **BLUESIL ESA 7250 A E5**.
The two components are thoroughly mixed using an electrical or pneumatic mixer, on a low speed setting so as to limit the inclusion of air in the mixture. A dispensing machine can also be used.

2. After mixing A and B parts, it is preferable to degas the product to eliminate the air bubbles that would be visible in the finished part and which would reduce the mechanical and dielectric properties. Degasing is generally carried out with a vacuum of 30 to 50 mbar releasing the vacuum several times during the operation. A recipient with a high diameter/height ratio is better suited to quick degasing however the height must be sufficient to contain the swelling of the elastomer under vacuum conditions.

3. **BLUESIL ESA 7250 A&B E5** is poured slowly and regularly. In the case of a high thickness coating operation, the casting must be made at the lowest point in the volume to be filled this avoids forming and including air bubbles in the volume. It should not be filled totally to allow expansion of the **BLUESIL ESA 7250 A&B E5** at service temperatures.

4. Recommended curing temperature: 4 hours at 60°C , or 2 hours at 100°C , or 1hour at 150°C. Certain materials that **BLUESIL ESA 7250 A&B E5** may be in contact with when curing could inhibit the reaction. Especially troublesome materials are: sulphur-containing cured natural and synthetic rubber compounds (neoprene, latex, SBR), tin catalyzed silicone rubbers, amine catalyzed epoxies, PVC stabilized with tin salts and some polyurethane elastomers.

Regulation

Please consult your local ELKEM SILICONES sales office.

Limitations

Please consult your local ELKEM SILICONES sales office.

Packaging

- BLUESIL ESA 7250 A E5 is available in

BLUESIL ESA 7250 A&B E5

	○ Drum of 25 KG (55.13 LB) • BLUESIL ESA 7250 B E5 is available in ○ Pail of 20 KG (44.1 LB)
Storage and shelf life	When stored in its original packaging: BLUESIL ESA 7250 A E5 may be stored at temperatures between -20°C / -4°F and 30°C / 86°F for up to 24 months from its date of manufacturing. BLUESIL ESA 7250 B E5 may be stored at temperatures between -20°C / -4°F and 30°C / 86°F for up to 24 months from its date of manufacturing. Comply with the storage instructions and expiration date marked on the packaging. Beyond this date, Elkem Silicones no longer guarantees that the product meets the sales specifications.
Safety	Please consult the Safety Data Sheet of: BLUESIL ESA 7250 A E5 and BLUESIL ESA 7250 B E5

Visit our website www.elkem.com/silicones/

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