

ADHESIVE 30-55

Description

Loxéal 30-55 is a structural acrylic adhesive designed primarily for bonding metal to metal, ferrite, ceramics and some thermoplastics. This adhesive may be used in a variety of structural bonding applications due to its versatile capabilities. Structural adhesive 30-55 provides high tensile strength while maintaining excellent product flexibility; this results in tough and durable bonds with outstanding impact and peeling resistance. Curing is effected in few minutes at room temperature by contact with Loxéal Activator 20.

Properties of uncured adhesive (typical values)

Base resin:	Modified acrylic
Active ingredients:	100% non solvent
Viscosity Brookfield (25°C - mPa.s)	
- spindle 7 @ 20 RPM:	70.000 – 100.000
- spindle 7 @ 2,5 RPM:	140.000 – 200.000
Specific gravity (25°C):	1,0 g/ml
Flash point, TCC:	87°C
Shelf life :	1 year (max storage temp. 25°C.)

Curing properties

Activator cure. Loxéal 30-55 is designed to be used with Loxéal Activator 20 and to cure at room temperature. Curing characteristics are measured by determining fixture time (handling time) and speed of cure.

Fixture time with Activator 20 @ 20°C.:

No induced gap	:	120 sec.
Gap 0,05 mm	:	< 2 min.
Gap 0,25 mm	:	10 min.
Gap 0,50 mm	:	20 min.

This information shall be used as guidance only since values obtained depend on the nature of the specimen tested. For a specific application, values should be obtained on the actual parts to be bonded in same production environmental conditions.

Heat cure

Heat can be used to perform the curing when surfaces conditioning with primer (Activator 20) is not desirable. Typical heat curing conditions consist of heating parts and maintaining the bond line at temperature given below for the time specified. Optimum conditions for heat cure should be determined on actual assemblies.

Bond line Temperature / Curing time

250°F / 121°C.	:	20 min.
300°F / 149°C.	:	10 min.
350°F / 177°C.	:	5 min.

Properties of cured adhesive (typical value)

Ratio of use Adhesive/Activator	:	100:10/20
Handling time	:	1 – 3 min.
Thinness of joint	:	0,05 – max. 0,50
Functional strength	:	24 hours
Shear strength (ASTM D-1002)	:	12 – 25 N/mm ²
Tensile strength (ASTM D-2095)	:	15 – 25 N/mm ²
Peeling strength (ISO 4578)	:	3,5 – 5 N.mm
Impact strength (ASTM D-950)	:	15 – 25 N.mm/ mm ²
Coefficient of thermal expansion (ATM D696):		80 x10 ⁻⁶ 1/K
Thermal conductivity (ASTM C277)	:	0,1 W/mK
Dielectric constant (ASTM D150)	:	4,6 Mhz
Volume resistivity (ASTM D257)	:	2.10 ¹³ Ohm.cm
Dielectric strength (ASTM D149)	:	30 – 50 KV/mm
Temperature resistance	:	-40°C. / + 120 °C.

Environmental resistance

All values have been generated on steel lap shears as described in ASTM D1002. Adhesive was cured at room temperature for 48 hours before exposure to ambient conditions. Specimen were assembled with no induced gap.

Test temperature % of strength retention

200°F/93°C.	110
250°F/121°C.	118
300°F/149°C.	132
350°F/177°C.	127
400°F/204°C.	87

Solvent resistance

Specimen immersed for 30 days at 188°F/87°C. and tested at room temperature

Chemical % of strength retention

Air	100
50/50 Water/Glycol	110
Phosphate Ester	110
Unleaded Gasoline	22
Motor Oil	97
ATF	96
Brake Fluid	

General information

This product is not recommended for use with strong oxidising materials. Aqueous washing systems used to clean the pieces before bonding may affect the curing and the performances of the adhesive. This product is normally not recommended for use on plastics; users may check compatibility with such substrates.

Directions for use

Clean and degrease surfaces to bond with Loxeal Cleaner 10. Apply enough product on one surface and apply Loxeal Activator 20 on the other surface. Put together surfaces and put pressure until adhesion is reached. Clean the excess of product with organic solvent. For gaps over 0,50 mm put Loxeal Activator 20 on both surfaces. Wait 24 hours to put pieces under stress conditions.

Storage

Keep product in a cool and dry room at no more than +25°C. To avoid contaminations do not refill containers with used product. For more information on applications, storage and handling contact Loxeal Technical Service

Safety and handling

Consult Material Safety Data Sheet

Note

The data contained herein, obtained in Loxeal laboratories, are given for information only. Loxeal cannot assume responsibility for the results obtained by others which methods are not under Loxeal control. It is the user's responsibility to determine suitability for the user's purpose of any product mentioned herein. Loxeal disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loxeal products. Loxeal specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.