

LOXEAL®

ENGINEERING ADHESIVES



TECHNICAL INFORMATION

History

Loxreal Srl is an Italian family company supplying, locally and worldwide, high quality adhesives and providing industrial solutions since the early Eighties. Our commitment is certified since 1993, when Loxreal was one of the first Italian chemical companies to achieve UNI EN ISO 9001 certification, followed by UNI EN ISO 14001 in 2011. Many of our products are certified according to international standards and regulations. Today the main focus is to develop high quality products and innovative application technologies.

Production facilities

Loxreal Italy - 20811 Cesano Maderno, MB - 20826 Misinto, MB



Blue Center Innovation Technologies, the a new research and innovation hub in Italy:

- Chemical formulation, research and development laboratories.
- Application laboratory to provide solutions for our customers.
- Training Center: for staff and customers.
- Showroom: presenting Loxreal's journey so far and its vision for the future.



Offices and facilities in America, Asia and Europe

Loxreal USA Pottstown, PA



Loxreal China, Shanghai



Loxreal Spain, Madrid



From production to distribution

Loxreal integrates vertically all stages of the production chain, working on them in order to customize the product according to the clients' needs. The process that allows to deliver a very high-quality product is made of different steps:

- Research and development, fundamental to grant continuous improvement.
- Production plants are in Italy with automated production lines and highly qualified technical personnel.
- Laboratory checks to ensure that products comply with quality standards.
- Distribution on B2B channels through agents, distributors and direct customers.

Certificates and approvals

Certificates and approvals achieved over many years are the best warranty of our jobs and products quality.

UNI EN ISO 9001 - Certificates that the continuous monitoring of production process, product quality and service are key elements in our company policy.

UNI EN ISO 14001 - Certificates our commitment to environmental responsibility.

Many of our products are certified according to international standards and approvals such as DVGW, Gaz de France, WRAS, BAM, NSF, ISO 10993.



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***REMARK

BROOKFIELD VISCOSITY

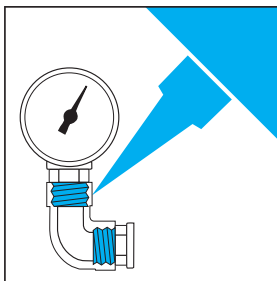
HT = HIGH THIXOTROPY
MT = MEDIUM THIXOTROPY
LT = LOW THIXOTROPY

LOCKING TORQUE

BOLT M10 X 20 Zn - QUALITY 8,8
NUT = 0,8 d
STANDARD ISO 10964

F = Fluorescent: when exposed to UV light by wood lamp (black light).

Thixotropy: capability of an adhesive to reduce its viscosity when exposed to stress.



Threadsealing

Threadsealings guarantee hydraulic tightness of the threaded connections.

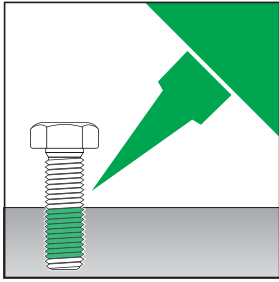
SUBSTRATES:

- Metal

BENEFITS:

- Replace hemp and PTFE tapes.
- Range of products with different curing time.
- Lubricate for easier assembly.
- Available in 3 grades of locking strength: low (easy to dismantle), medium (possible to dismantle), high (permanent locking).
- Maintain the initial applied torque.
- Seal to the burst pressure and to thermal expansion rates.
- Seal and lock threaded connections against pressure of gas, air, water, oils, hydrocarbons and many chemicals.
- Certified according to various international standards, e.g. DVGW, NSF, WRAS, BAM, GLOBAL MARK.

	PRODUCT	MAX DIAMETER OF THREAD MAX GAP FILLING		*** VISCOSITY 25°C mPa s (LT-MT-HT)	COLOUR	CURING TIME		*** LOCKING TORQUE (N m) (ISO 10964)		SHEAR STRENGTH (ISO 10123) (N/mm²)	TEMPERATURE RANGE (°C)	APPROVALS	DESCRIPTION
						HANDLING (min.)	FUNCTIONAL (h)	BREAKAWAY	PREVAILING				
LOW STRENGTH	15-36	2"	0,30 mm	3000-6000 LT	BLUE/F	15 - 30	1 - 3	8 - 14	4 - 8	4 - 6	-55 +180	Gas DVGW	Fluid, high temperature.
	18-10	2"	0,30 mm	17000-70000 HT	WHITE	20 - 40	1 - 3	6 - 11	2 - 5	4 - 6	-55 +150	Gas DVGW e AGA	PTFE paste, high viscosity, slow, elastic film.
	23-18	3/4"	0,15 mm	600-800 LT	BLUE/F	15 - 30	1 - 3	5 - 8	2 - 5	3 - 5	-55 +150		Fluid, for small threads.
MEDIUM STRENGTH	53-14	3/4"	0,15 mm	430-630 LT	BROWN/F	10 - 20	1 - 3	12 - 18	10 - 20	8 - 12	-55 +150	Gas DVGW	Fluid, general purpose.
	55-14	2"	0,30 mm	2500-12000 MT	RED/F	10 - 20	1 - 3	12 - 18	20 - 30	8 - 12	-55 +150		Medium viscosity, general purpose.
	55-37	1 1/2"	0,25 mm	2500-4500 LT	RED/F	15 - 30	1 - 3	15 - 32	25 - 45	10 - 14	-55 +150	Gas DVGW	Flexible, high performances.
	56-03	2"	0,30 mm	5000-30000 MT	BLUE	15 - 30	1 - 3	10 - 16	12 - 20	8 - 12	-55 +150		Fill large gaps.
	58-10	2"	0,30 mm	25000-90000 HT	WHITE/F	5 - 10	0,5 - 1	18 - 25	10 - 20	6 - 13	-55 +150	Gas Gaz de France	High viscosity, fast.
	58-11	2"	0,30 mm	20000-80000 HT	YELLOW/F	15 - 30	1 - 2	18 - 24	7 - 14	6 - 13	-55 +150	Gas DVGW e AGA, Oxygen BAM, Potable water WRAS, Food NSF S4	High viscosity. No risk phrases, blank MSDS.
HIGH STRENGTH	58-12	2"	0,30 mm	20000-80000 HT	YELLOW	15 - 45	6 - 12	18 - 24	7 - 14	4 - 10	-55 +150		High viscosity, user friendly, no risk phrases, blank MSDS.
	82-01	3/4"	0,15 mm	220-300 LT	GREEN	2 - 5	1 - 3	20 - 35	50 - 70	20 - 30	-55 +175		Sealant/retainer, fluid, fast.
	83-05	3/4"	0,20 mm	500-1000 LT	GREEN	2 - 5	1 - 3	25 - 35	50 - 70	25 - 35	-55 +200		Fluid, for stainless steel and passivated metals.
	83-50	3/4"	0,20 mm	400-1000 LT	GREEN/F	2 - 5	1 - 3	25 - 35	40 - 50	25 - 35	-55 +200	Gas DVGW, Potable water WRAS	Fluid, high temperature, for stainless steel.
	84-90	1 1/2"	0,20 mm	1000-1500 LT	GREEN	15 - 30	3 - 6	20 - 30	30 - 40	10 - 20	-55 +250		High temperature, up to +250°C.
	85-21	1 1/2"	0,20 mm	2600-3400 LT	GREEN/F	2 - 5	1 - 3	30 - 40	55 - 70	25 - 35	-55 +150	Gas Gaz de France	Sealant/retainer, fast, allow working tolerances.
	85-86	2"	0,30 mm	2200-4000 LT	GREEN/F	10 - 40	6 - 12	25 - 35	40 - 55	15 - 25	-55 +200	Gas DVGW, Oxygen BAM, Potable water WRAS	High temperature up to +200°C.
	86-55	2"	0,30 mm	5000-8000 LT	RED/F	60 - 90	12 - 24	15 - 35	15 - 45	10 - 20	-55 +150		Delayed curing.
	86-58	2"	0,30 mm	5000-7000 LT	RED/F	30 - 60	6 - 12	35 - 40	40 - 50	15 - 25	-55 +150		High resistance, for brass.



Threadlocking

Loxeal anaerobic threadlocking adhesives enable you to lock bolts, studs, nuts and screws and to avoid loosening caused by stress and vibration.

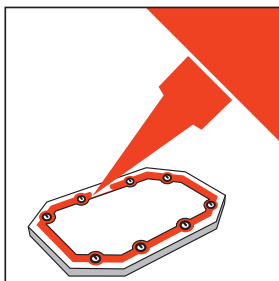
SUBSTRATES:

- Metal

BENEFITS:

- Replace mechanical washers and fasteners.
- Prevent loosening caused by vibration, mechanical and thermal shock.
- Lubricate for easier assembly.
- Maintain the initial applied torque.
- Available in 3 grades of locking strength: low (easy to dismantle), medium (possible to dismantle), high (permanent locking).
- Certified according to international standards DVGW, Gaz de France, WRAS.

	PRODUCT	MAX DIAMETER OF THREAD MAX GAP FILLING		*** VISCOSITY 25°C mPa s (LT-MT-HT)	COLOUR	CURING TIME		*** LOCKING TORQUE (N m) (ISO 10964)		SHEAR STRENGTH (ISO 10123) (N/mm²)	TEMPERATURE RANGE (°C)	APPROVALS	DESCRIPTION
						HANDLING (min.)	FUNCTIONAL (h)	BREAKAWAY	PREVAILING				
LOW STRENGTH	24-18	M24	0,20 mm	800-1400 MT	PURPLE/F	15 - 30	1 - 3	5 - 8	2 - 5	3 - 5	-55 +150		Anti-vibration, general purpose.
	54-03	M24	0,20 mm	900-1500 MT	LIGHT BLUE/F	10 - 20	1 - 3	14 - 20	4 - 9	8 - 12	-55 +150		Fluid, general purpose.
MEDIUM STRENGTH	55-02	M36	0,25 mm	2500-12000 MT	BLUE	20 - 40	6 - 12	18 - 25	9 - 16	9 - 13	-55 +150		User friendly, no risk phrases, blank MSDS.
	55-03	M36	0,25 mm	1700-9000 MT	BLUE/F	10 - 20	1 - 3	18 - 23	9 - 16	9 - 13	-55 +200	Gas DVGW, Gaz de France, Potable water WRAS	High Temperature, oil-tolerant.
	55-04	M36	0,25 mm	1500-8600 MT	RED/F	10 - 15	1 - 3	20 - 25	40 - 50	10 - 15	-55 +150		Fill large gaps, for large diameter studs.
HIGH STRENGTH	70-10	M5	0,07 mm	10-20 LT	GREEN	40 - 80	3 - 6	5 - 10	5 - 15	2 - 10	-55 +150		Capillary penetration on pre-assembled parts, for brass and copper.
	70-14	M5	0,07 mm	10-20 LT	GREEN	10 - 20	1 - 3	10 - 25	25 - 40	8 - 12	-55 +150		Capillary penetration on pre-assembled parts, fast.
	83-52	M20	0,15 mm	450-650 LT	GREEN	20 - 40	6 - 12	25 - 35	50 - 65	10 - 20	-55 +150		User friendly, no risk phrases, blank MSDS.
	83-54	M20	0,15 mm	450-650 LT	GREEN	10 - 20	1 - 3	25 - 35	50 - 65	15 - 20	-55 +200		General purpose, high temperature.
	83-55	M20	0,15 mm	450-600 LT	RED/F	10 - 20	1 - 3	25 - 35	50 - 65	15 - 20	-55 +150		Sealant/retainer, oil-tolerant.
	85-56	M56 2"	0,30 mm	2500-4500 LT	BLUE/F	15 - 30	3 - 6	30 - 40	40 - 50	15 - 25	-55 +150		General purpose, medium viscosity.
	86-54	M56 2"	0,30 mm	8000-24000 MT	GREEN/F	15 - 30	3 - 6	40 - 50	45 - 55	15 - 25	-55 +150		High viscosity, fast curing, fill large gaps.
	86-72	M56 2"	0,30 mm	5000-28000 MT	RED	20 - 40	3 - 6	25 - 35	40 - 70	10 - 20	-55 +230	Gas DVGW	High Temperature up to +230°C.



Gasketing

Gasketing Loxeal adhesives seal flat mating surfaces and join flanges on pumps, gearboxes and differential housings of any shape and dimension in an easy and effective way directly from the tube or the cartridge both vertically and horizontally.

SUBSTRATES:

- Metal, Plastic, Glass, Ceramic, Enamel, Wood

BENEFITS:

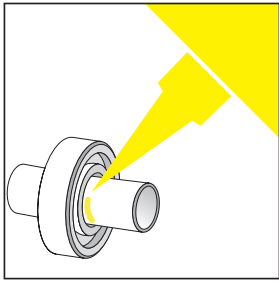
- Prevent leakage on aging (vs preformed paper, cork, or plastic gaskets).
- One adhesive replaces many pre-cut gasket shapes.
- Guarantee the parts sealing and enhance hydraulic tightness.
- Do not generate any thickness.
- Highly resistant against temperature, pressure, oils and chemicals.
- Prevent oxidation and fretting corrosion.
- Possible to dismantle with standard tools.
- Rapid cure speeds at low pressure and resistance to high temperature, up to +250°C.

Liquid gasketing

PRODUCT	CLASS OF LOCKING	MAX GAP FILLING	*** VISCOSITY (+25°C mPa s) (HT)	COLOUR	CURING TIME		ADHESIVE STRENGTH			TEMPERATURE RANGE (°C)	DESCRIPTION
					HANDLING (min.)	FUNCTIONAL (h)	SHEAR (ISO 4587) (N/mm²)	TENSILE (ISO 6922) (N/mm²)	IMPACT (ASTM D 950) (KJ/m²)		
28-10	Low Strength	0,30 mm	17000 - 60000	GREEN/F	20 - 40	3 - 6	4 - 6	2 - 4	2 - 4	-55 +150	Easy to dismantle, elastic film.
28-12	Low Strength	0,30 mm / 2"	10000 - 20000	YELLOW	10 - 30	3 - 6	3 - 5	-	-	-55 +150	Easy to dismantle. User friendly, no risk phrases, blank MSDS.
58-14	Medium Strength	0,50 mm	28000 - 100000	ORANGE	15 - 30	3 - 6	5 - 10	5 - 8	3 - 5	-55 +150	General purpose.
58-31	Medium Strength	0,50 mm	70000 - 600000	RED/F	10 - 20	1 - 3	8 - 13	7 - 10	4 - 7	-55 +180	Elastic film, high performances.
59-10	Medium Strength	0,50 mm	50000 - 300000	RED/ORANGE	15 - 30	3 - 6	5 - 10	6 - 8	3 - 5	-55 +200	High temperature, fill large gaps.

Elastomeric & Plastic Gasket

PRODUCT	APPEARANCE	COLOUR	CURING TIME		ELONGATION AT BREAK (%)	TENSILE STRENGTH (N/mm²)	HARDNESS SHORE A	TEMPERATURE RANGE (°C)	DESCRIPTION
			INITIAL STRENGTH (min.)	BEAD (ø 2 mm)					
59-20	PASTE	TRANSPARENT	20 - 25	10 - 14 ore	200 - 300	1 - 1,5	15 - 20	-40 +180	Odourless neutral silicone, high oil resistance.
		GREY/BLACK	20 - 25	48 - 52 ore	200 - 300	0,5 - 1	20 - 25	-40 +180	Odourless neutral silicone, high oil resistance.
59-30	PASTE	RED/BLACK	15 - 20	4 - 8 ore	250 - 350	0,5 - 1	25 - 35	-40 +250	High temperature silicone, up to 300°C.
59-40	PASTE	GREY/BLACK	10 - 15	22 - 26 ore	200 - 300	2 - 4	40 - 50	-40 +90	MS polymer, odourless, paintable, UV rays resistant.



Retaining

Retaining anaerobic Loxeal adhesives lock and fit cylindrical assemblies and increase the load carrying capacity.

SUBSTRATES:

- Metal

BENEFITS:

- Allow high strength cylindrical assemblies like: bearings, pulleys, pivots, bushes.
- Replace welding and mechanical retainers.
- Allow larger machining tolerances, reducing manufacturing costs.
- Lubricate for easier assembly.
- Seal the joint preventing fretting corrosion.
- Can seal together different materials.
- Ensure high transmission strength.
- High temperature resistance.

	PRODUCT	MAX DIAMETER OF THREAD MAX GAP FILLING		*** VISCOSITY 25°C mPa s (LT-MT-HT)	COLOUR	CURING TIME		*** LOCKING TORQUE (ISO 10964) (N m)		SHEAR STRENGTH (ISO 10123) (N/mm²)	TEMPERATURE RANGE (°C)	APPROVALS	DESCRIPTION
						HANDLING (min.)	FUNCTIONAL (h)	BREAKAWAY	PREVAILING				
MEDIUM STRENGTH	53-11	M20	0,12 mm	400-650 LT	YELLOW/F	10 - 20	1 - 3	11 - 20	15 - 25	8 - 12	-55 +150		General purpose.
HIGH STRENGTH	82-13	M12	0,10 mm	120-180 LT	GREEN/F	30 - 60	12 - 24	15 - 25	35 - 45	15 - 30	-55 +150		Fluid, for precise joints, slow curing.
	82-21	M12	0,10 mm	120-180 LT	GREEN	5 - 10	1 - 3	24 - 35	50 - 60	17 - 22	-55 +150		Fluid, for precise joints, fast curing.
	82-33	M12	0,10 mm	120-180 LT	GREEN	5 - 10	1 - 3	20 - 30	45 - 55	17 - 22	-55 +150		Oil-tolerant.
	83-03	M20 3/4"	0,20 mm	800-1200 LT	GREEN/F	2 - 5	1 - 3	25 - 35	50 - 70	25 - 35	-55 +200	Gas Gaz de France	Fluid, very fast curing, high temperature.
	83-21	M20 3/4"	0,15 mm	400-600 LT	GREEN	2 - 5	1 - 3	25 - 35	50 - 70	25 - 35	-55 +175	Oxygen BAM	General purpose, fast curing high temperature.
	85-02	M36 1 1/2"	0,20 mm	3000-4000 MT	GREEN/F	1 - 4	1 - 3	30 - 40	55 - 70	25 - 35	-55 +175		Very fast curing, high temperature.
	85-21	M36 1 1/2"	0,20 mm	2600-3400 LT	GREEN/F	2 - 5	1 - 3	30 - 40	55 - 70	25 - 35	-55 +150	Gas Gaz de France	Sealant/retainer, fast, allow working tolerances.
	85-61 UV	M36 1 1/2"	0,20 mm	3000-4000 LT	BLUE/F	5 - 10	1 - 3	30 - 40	50 - 60	20 - 25	-55 +150		Dual curing: anaerobic and UV.
	86-21	2"	0,30 mm	7000-30000 THIXO	GREEN/F	1 - 4	1 - 3	30 - 40	50 - 70	25 - 30	-55 +150		Hhigh viscosity, fill large gaps, fast curing.
	86-86	M56 2"	0,30 mm	5000-35000 MT	GREEN/F	20 - 40	3 - 6	25 - 35	40 - 70	10 - 20	-55 +230	Gas DVGW	High temperature.
	89-51	2"	0,30 mm	60000-720000 HT	SILVER	15 - 30	3 - 6	40 - 45	15 - 20	25 - 30	-55 +150		Repair damaged shafts.



UV curing adhesives

Loxreal UV curing adhesives cure in a short time in presence of a UV light source, if at least one of the substrates is transparent. They create a very tough plastic film.

SUBSTRATES:

- Glass/glass, Glass/metal, Transparent plastic (PC, ABS, PMMA)

BENEFITS:

- Usually colorless, they are designed to bond clean, transparent and not yellowing junctions.
- They're suitable for coating, potting and sealing.
- They are extremely reactive, they start curing as the UV light activates the photo initiators.
- Different kind of UV lamps are available for industrial use, such as mercury vapor lamps and led lamps.
- Some of Loxreal UV curing adhesives can be used for medical devices application.

	PRODUCT	VISCOSITY (+25°C mPa s)	GAP FILLING (mm)	CURE SPEED	UV CURE (nm)	HARDNESS (Shore D)	ELONGATION AT BREAK (%) (ASTM D638)	TENSILE STRENGTH (D 2095-69) (N/mm²)	DESCRIPTION
PLASTIC	30-11	200 - 300	0,03 - 0,20	+	365 - 400	50 - 65	100 - 150	-	Fluid for medical plastic, approved for medicals ISO 10993.
	30-12	200 - 400	0,03 - 0,20	++	365 - 400	50 - 65	120 - 200	-	Specific for thermoplastic.
	30-12 Gel	GEL	0,03 - 2	++	365 - 400	70 - 80	120 - 200	-	Gel, specific for thermoplastic.
	UV3013	1500 - 2000	0,03 - 1,5	+	365 - 400	40 - 50	200 - 250	-	Specific for PMMA and transparent plastic.
	UV30-16	2000 THIXO	0,03 - 0,5	+++	365 - 400	55 - 70	40 - 60	-	Specific for rigid plastic, very fast, tack-free.
	30-27	90 - 150	0,03 - 0,20	++	365 - 400	70 - 80	10 - 50	-	Specific for medical needles, approved for medicals ISO 10993
GLASS	30-20	2200 - 2900	0,03 - 1,5	+	365 - 400	50 - 65	80 - 100	10 - 14	Transparent, fast curing, general purpose, for decorative objects.
	30-21	600 - 1300	0,03 - 1,5	+	365 - 400	50 - 70	90 - 150	10 - 14	Tough, bonding on edges.
	30-22	5500 - 7500	0,03 - 2	++	365 - 400	50 - 65	80 - 100	8 - 12	Transparent, high viscosity, general purpose.
	30-23	50 - 100	0,03 - 1,5	+	365 - 400	60 - 75	60 - 100	10 - 14	Very fluid, for plain surfaces.
	30-24	2200 - 2900	0,03 - 2	++	365 - 400	50 - 70	60 - 100	12 - 16	Rigid film, high resistance, for decorative objects.
	30-30	500 - 800	0,03 - 1,5	++	400	50 - 60	60 - 120	8 - 14	Clarity overtime, adhesive excess easy to clean.
	30-33	1000 - 2000	0,03 - 1,5	++	365 - 400	65 - 75	80 - 150	6 - 10	Clarity overtime, tough.
	30-34	2500 - 3500	0,03 - 1,5	++	365 - 400	60 - 70	80 - 120	8 - 14	Clarity overtime, for decorative objects.
	30-35	5000 - 8000	0,03 - 1,5	++	365 - 400	40 - 50	150 - 200	8 - 12	Clarity overtime, resistant to humidity.
	30-36	5000 - 8000	0,03 - 2	++	365 - 400	60 - 70	100 - 150	8 - 12	Clarity overtime, tough, fill large gaps.
	30-37	2200 - 2900	0,03 - 1,5	++	365 - 400	50 - 60	90 - 150	6 - 10	Flexible, for bonding glass with metallic platics.
	30-38	20000 - 30000	0,03 - 2	++	365 - 400	50 - 75	100 - 150	5 - 10	Clarity overtime, high viscosity, fill large gaps.
	30-60	GEL	0,03 - 2,5	+	365 - 400	60 - 70	60 - 100	4 - 8	Gel, transparent, for vertical bonding.
	30-83	1000 - 1600	0,03 - 1	++	365 - 400	50 - 65	50 - 100	-	For coating and doming, tack-free.



Cyanoacrylate adhesives - Istant

The Cyanoacrylate range Loxeal Istant is developed to bond quickly a huge variety of substrates. They cure by reacting to small traces of moisture on substrates surfaces.

SUBSTRATES:

- Metal, Plastic, Rubber, Paper, Wood and Cork.
- In combination with Primer 7: Polyethylene, Polypropylene, EPDM, Silicone rubber and PTFE.

ETHYL	PRODUCT	SPECIFIC GRAVITY g/ml	VISCOSITY (+25°C mPa s)	GAP FILLING (microns)	SPEED OF CURE (5 fast, 1 slow)	TENSILE STRENGTH (ISO 6922) (N/mm ²)	SHEAR STRENGTH (ISO 4587) (N/mm ²)	APPROVALS	DESCRIPTION
	23	1,06	40 - 80	10 - 60	3	12 - 25	13 - 18		Fluid, general purpose.
	25	1,10	350 - 450	10 - 150	3	15 - 23	13 - 20		Medium viscosity, general purpose.
	26UV	1,10	600 - 1200	10 - 150	UV 5 - CA 2	-	12 - 20	medical ISO 10993-5	Dual-cure moisture/UV, fast and tack-free.
	27	1,10	1200 - 1800	10 - 200	2	18 - 25	13 - 18		High viscosity, general purpose, fill large gaps.
	32	1,10	5 - 10	10 - 40	5	12 - 25	13 - 18		Very fast curing, for difficult-to-bond rubber and plastic.
	34	1,10	10 - 30	10 - 100	5	12 - 25	13 - 18		Very fast curing, for difficult-to-bond rubber and plastic.
	41	1,10	5 - 10	10 - 40	5	18 - 25	13 - 18		Fluid, very fast curing, for difficult-to-bond substrates.
	43S	1,06	80 - 150	10 - 150	5	15 - 25	15 - 20	food NSF S4	Universal, high temperature, approved for Food NSF S4.
	45	1,06	600 - 1200	10 - 150	4	12 - 25	12 - 20		High viscosity, for difficult-to-bond substrates.
	47	1,08	GEL	10 - 300	2	18 - 25	13 - 18	food NSF S4	Gel, high temperature, approved for Food NSF S4.
	48	1,05	2000 - 2500 THIXO	0,5 mm	2	18 - 25	13 - 18		Fluid gel, vertical bonding, for porous surfaces.
	93	1,10	100	10 - 150	4	25	-		Medium viscosity, outstanding resistance underwater.
	MED-C01	1,06	100 - 150	10 - 150	5	12 - 25	15 - 20	medical ISO 10993-5	Very fast, wide variety of substrates.

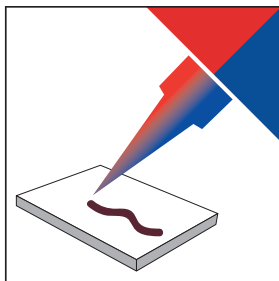


Cyanoacrylate adhesives - Istant

BENEFITS:

- Curing in seconds at room temperature.
- Allow high resistance in a short time.
- Solvent free.
- Allow neat assembly without mechanical means (rivets, screws, welding).
- Easy dispensing either manually or with dosing systems.
- Three different chemical bases for specific needs:
 - Methyl for metals
 - Ethyl as universal and in special modified versions
 - Alcoxy, no blooming - odour free
- Can resist to high temperature.

	PRODUCT	SPECIFIC GRAVITY g/ml	VISCOSITY (+25°C mPa s)	GAP FILLING (microns)	SPEED OF CURE (5 fast, 1 slow)	TENSILE STRENGTH (ISO 6922) (N/mm²)	SHEAR STRENGTH (ISO 4587) (N/mm²)	DESCRIPTION
METHYL	14	1,10	80 - 150	10 - 100	2	25 - 30	20 - 25	Fluid, high resistance, delayed curing, for metals.
	17	1,19	1200 - 1800	10 - 200	1	25 - 30	18 - 25	High viscosity, high resistance, delayed curing, for metals.
ALCOXY	60R	1,06	3 - 10	10 - 30	1	10 - 20	14 - 22	Delayed curing infiltrant for better penetration, for 3D printing.
	61	1,06	10 - 20	10 - 40	1	10 - 20	14 - 22	Fluid, odourless, no blooming.
	63	1,07	80 - 150	10 - 150	1	10 - 25	12 - 22	General Purpose, odourless, no blooming.
	67	1,1	1000 - 1500	10 - 200	1	10 - 25	12 - 22	High viscosity, odourless, no blooming.
MODIFIED	29	1,06	500 - 1500	10 - 200	1	18 - 25	13 - 18	Elastomeric, black, general purpose.
	37	1,05	1000 - 2000	10 - 200	3	12 - 25	16 - 20	High viscosity, flexible, high impact resistant.
	73	1,06	100 - 200	10 - 150	2	12 - 25	15 - 25	Tough and flexible, high temperature.
	74	1,06	100 - 200	10 - 150	2	12 - 25	15 - 25	Black, tough and flexible, high temperature.
	75	1,10	4000 - 5000	10 - 250	2	12 - 25	15 - 25	High viscosity, tough, high performances, general purpose.
	77	1,10	2000 - 4000	10 - 250	2	12 - 25	15 - 25	High viscosity, tough, black, high performances, general purpose.
HIGH TEMPERATURE	54	1,06	5 - 15	10 - 60	2	18 - 25	13 - 18	Fluid, resistant up to +130°.
	55	1,06	600 - 1000	10 - 200	2	18 - 25	18 - 25	Medium viscosity, resistant up to +130°.
	56	1,10	100 - 150	10 - 150	2	18 - 25	16 - 20	Fluid, resistant up to +200°



Epoxy Adhesives

Loxéal Epoxy Adhesives are structural adhesives with high mechanical resistance. The 2k resins cure by mixing the two components (resin and hardener), usually at room temperature. The modified 2k epoxy resins are designed for applications that require flexible bonding and sealing. 1k epoxy resins are the highest performant adhesives as for mechanical, thermal and chemicals resistance, they cure by means of heating.

SUBSTRATES:

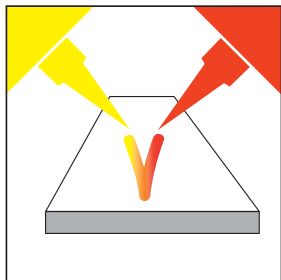
- Metal, Composite, Glass, Ceramic, Wood, Stone, Plastic.

BENEFITS:

- High mechanical resistance.
- Highly resistant to humidity and chemicals.
- Different curing times available.
- Heating shorten the curing process.
- Fill large gaps.
- Available in a full color range: from transparent for glass and design to black for carbon fiber.

	PRODUCT	COLOUR	VISCOSITY (+25°C Pa s)	HANDLING TIME (+25°C) (minutes)	FUNCTIONAL CURE TIME (+25°C)	SHEAR STRENGTH (ISO 4587) (N/mm²)	PEEL STRENGTH (ISO 4578) (N/25 mm)	DESCRIPTION
TWO-PART Viscosity = (A) Resin - (B) Hardener (*) Time detected on a 2 g total mass mixture A + B (**) Heat curing for 60 minutes at +80°C	31-10	AMBER	12-18 (A) / 10-25 (B)	90 - 150 (*)	12 - 24 h	12 - 14	10 - 25	Tough, 120 minutes.
	31-40	COLOURLESS	12-18 (A) / 15-30 (B)	10 - 20 (*)	30' - 40'	10 - 12	4 - 20	Tough, transparent, 15 minutes.
	31-42	COLOURLESS	12-18 (A) / 15-30 (B)	3 - 8 (*)	20' - 30'	12 - 14	4 - 20	Tough, transparent, 5 minutes.
	32-43	TRANSLUCENT	30-55 THIXO (A) / 50-80 THIXO (B)	5 - 10 (*)	10' - 20'	10 - 14	-	Fast curing, general purpose, also at low temperature.
	35-44	COLOURLESS	10-20 (A) / 14-24 (B)	10 - 20 (*)	40' - 60'	5 - 9	25 - 60	Tough and flexible, general purpose, high peel resistant.
	36-10	AMBER	14-28 (A) / 10-25 (B)	90 - 150 (*)	12 - 24 h	12 - 18	25 - 40	Flexible and tough, 120 minutes.
	3636	GREY	50-100 THIXO (A) / 100-200 THIXO (B)	50 - 80 (*)	72 - 96 h	15 - 25	60 - 80	High viscosity, tough, slow curing.
	4401	GREY	80-90 THIXO (A) / 80-90 THIXO (B)	10 - 15	20 - 26 h	25 - 35	200 - 250 (**)	Tough, high temperature.
	4428	DARK GREY	60-150 THIXO (A) / 100-200 THIXO (B)	5 - 15	24 - 36 h	18 - 22	150 - 200	Fast curing, high temperature, for composites.
	4429	BLACK	50-80 THIXO (A) / 50-80 THIXO (B)	140 - 160	24 - 36 h	18 - 22	150 - 200	High viscosity, non-sag, slow curing, high temperature, for composites.
	EB3747	WHITE	15-20 (A) / 10-15 THIXO (B)	5 - 10	15' - 25'	15 - 25	120 - 150	Fast, toughened, water and humidity resistant. Low temperature curing.
	EB4451	GREY	5-15 THIXO (A) / 8-25 THIXO (B)	140 - 160	36 - 48 h	18 - 22	-	Thermally conductive, high temperature.
	EH4836	IVORY	THIXO PASTE	20 - 30	14 - 18 h	2 - 4	50 - 70	2K MS polymer for metals, PC, ABS and nylon. UL94 V-0 complaint.
	METALOX	METALLIC GREY	35-45 THIXO (A) / 10-15 THIXO (B)	5 - 10	50' - 70'	20 - 25	-	Fast, high strength, for metal bonding and repair.
HYBRID TWO-PART	EPOXSTIK	AMBER	PASTE	5 - 7	15' - 25'	4 - 6	-	Plastic putty designed for fast or emergency maintenance and repair.
	4807	GREY	15-25 THIXO (A) / 1-2 THIXO (B)	5 - 15	14 - 18 h	5 - 8	60 - 80	Maximum flexibility, for bonding together different materials.
	4820	BLACK	20-50 (A) / 0,2-0,3 (B)	25 - 50	70 - 74 h	4 - 7	-	Self-levelling, maximum flexibility, general purpose.
	4821	BLACK	THIXO PASTE	10 - 20	14 - 18 h	4 - 6	70 - 80	High viscosity, maximum flexibility, general purpose.
	4826	IVORY	THIXO PASTE	-	70 - 74 h	1 - 2	-	Self-extinguishing, thermally conductive, high temperature.

	PRODUCT	COLOUR	VISCOSITY (+25°C Pa s)	HANDLING TIME	SHEAR STRENGTH (ISO 4587) (N/mm²)	PEEL STRENGTH (ISO 4578) (N/25 mm)	TEMPERATURE RANGE (°C)	DESCRIPTION
SINGLE-PART (•) Curing time depends on temperature, way of use an thermal inertia of the parts	4500	GREY	800 - 3800 THIXO	30 min / @ +150°C	20 - 30	80 - 120	-40 +180	High viscosity, tough, for vertical bonding, high performances.
	4580	GREY	150 - 250 THIXO	45 min / @ +150°C	18 - 25	80 - 120	-40 +180	Tough, self-levelling, free flowing while curing.
	4620	WHITE	15 - 30	30 min / @ +150°C	18 - 25	-	-40 +180	Fluid, tough, self-levelling.
	4680	IVORY	60 - 100	15 min / @ +150°C	20 - 25	-	-40 +180	High impact strength, free flowing while curing for ferrites and magnets.
	4690	BLACK	200 - 300 THIXO	45 min / @ +150°C	18 - 25	80 - 150	-40 +180	Tough, non-sag, high performances.
	4700	AMBER	8 - 12	90 min / @ +150°C	15 - 25	-	-40 +180	Self-levelling, cure at low temperature.
	4780	BLACK	400 - 600 THIXO	30 min / @ +150°C	15 - 25	-	-40 +180	High viscosity, thermally conductive.



Acrylic Adhesives

Loxéal Acrylic Adhesives are structural Adhesives with high peel and impact strength. They assure high resistance against chemicals and good resistance against heat.

SUBSTRATES:

- Metal, Glass, Ceramic, Plastic.

BENEFITS:

- Greatly increase in design possibilities to bond a wide variety of substrates.
- Suitable for materials with different thermal expansion coefficient.
- Shocks and vibrations resistant.
- Chemical reaction can start in different ways:
 - Mixing by static mixer
 - Bead on bead
 - At contact (with liquid activator)

	PRODUCT	VISCOSITY (+25°C mPa s)	CURING TIME	SHEAR STRENGTH (ISO 4587) (N/mm²)	PEEL STRENGTH (ISO 4578) (N/25 mm)	JOINT THICKNESS (mm)	DESCRIPTION
ACTIVATE D	30-55 (+Att. 20)	15000 - 30000 THIXO	Handling 1-4 min / Functional 30-60 min	15 - 25	85 - 100	1	High viscosity, general purpose.
	3439 (+Att. 20)	600 - 1000	Handling 20-50 s / Functional 10-20 min	20 - 30	85 - 100	0,2	Fluid, high temperature, high resistance.
	3459 (+Att. 20)	15000 - 25000 THIXO	Handling 20-40 s / Functional 10-20 min	20 - 30	85 - 100	0,2	Gel, high temperature, high resistance.
BEAD ON BEAD	33-47 (A+B)	5000 - 12000	Handling 1-3 min / Functional 30-60 min	8 - 20	45 - 65	0,5	Fluid, general purpose.
MIXING	3362	3000 - 6000 (A) / 3000 - 6000 (B)	Pot life 4-7 min / Handling 10-12 min / Functional 90-180 min	20 - 25	-	1	Low odour, high performances, for plastic.
	3452	4000 - 5000 (A) / 4000 - 5000 (B)	Pot life 2-3 min / Handling 8-10 min / Functional 60-120 min	19 - 21	-	0,50	Low odour, high performances, for metal.
	3460	THIXO PASTA (A) / 15000 - 30000 (B)	Pot life 3-4 min / Handling 4-6 min / Functional 2-4 h	10-15 (HDPE)	110 - 130	1	Fast, for polyolefins (PE, PP, ...).
	3461	THIXO PASTA (A) / 15000 - 30000 (B)	Pot life 5-8 min / Handling 10-12 min / Functional 8-10 h	8-13 (HDPE)	110 - 130	1	Slow, for polyolefins (PE, PP, ...).
	AC5465	THIXO PASTA (A) / 15000 - 30000 (B)	Pot life 5-7 min / Handling 10-12 min / Functional 10-12 h	8-10 (HDPE)	110 - 130	0,50	Polyolefins bonder (PE, PP, ...), transparent, 0-gap.
	AC5466	THIXO PASTA (A) / 15000 - 30000 (B)	Pot life 5-7 min / Handling 13-16 min / Functional 10-12 h	8-10 (HDPE)	110 - 130	0,50	Polyolefins bonder (PE, PP, ...), no odor.
	AC5470	10000-15000 THIXO (A) / 2500-3500 THIXO (B)	Pot life 5-7 min / Handling 13-16 min / Functional 10-12 h	8 - 14	-	1	Filled and unfilled Polyamide, for high temp. applications, diesel and gasoline resistant
	SUPERLOX	THIXO PASTA (A) / 15000 - 30000 (B)	Pot life 5-7 min / Handling 10-12 min / Functional 10-12 h	8-10 (HDPE)	110 - 130	0,50	Polyolefins bonder (PE, PP, ...), transparent, 0-gap.
	AC5002	1000 - 7000 THIXO (A) / 1000 - 7000 (B)	Pot life 2-3 min / Handling 5-10 min / Functional 20-25 min	20 - 25	250 - 300	0,50	MMA, pink&green, fluid, toughened, general purpose.
	AC5004	80000 - 120000 THIXO (A) / 8000 - 12000 (B)	Pot life 1-2 min / Handling 5-10 min / Functional 20-25 min	18 - 20	45 - 50	3	MMA, specialty, crystal clear, toughened.
	AC5007	3000 - 9000 (A) / 1000 - 2000 (B)	Pot life 7-10 min / Handling 15-20 min / Functional 20-30 min	25 - 35	200 - 250	0,50	MMA, excellent performances on a wide variety of substrates.
	AC5008	70000-90000 THIXO (A) 110000-130000 THIXO (B)	Pot life 7-10 min / Handling 15-20 min / Functional 20-30 min	25 - 35	150 - 200	3	MMA, black, no sag. For structural bonding of metals, composites and plastics.

Polyurethane Adhesives

PRODUCT	VISCOSITY (+25°C mPa s)	POT LIFE (minutes)	FUNCTIONAL CURE (hours)	SHEAR STRENGTH (ISO 4587) (N/mm²)	PEEL STRENGTH (ISO 4578) (N/25 mm)	JOINT THICKNESS (mm)	DESCRIPTION
33-26	4000 - 8000 THIXO (A) / 3000 - 6000 THIXO (B)	4 - 8	24 - 48	10 - 20	-	-	Fast curing, resistant to water, for rigid materials.
33-28	4000 - 8000 THIXO (A) / 3000 - 6000 THIXO (B)	15 - 20	24 - 48	10 - 15	-	-	Slow curing, resistant to water, for rigid materials.

Surface conditioners and complementary products



SURFACE CONDITIONERS

CATEGORY	PRODUCT	APPROVALS	DESCRIPTION
For cyanoacrilates	Primer 7		Primer for polyolefins.
For silicones, MS polymers and hybrid epoxies	Primer 79		Primer for polyolefins and rubbers.
For cyanoacrilates	Activator 9		For difficult and porous surfaces, no-blooming.
For cyanoacrilates	Remover CR1		Remover for cured adhesives.
For cyanoacrilates	Remover CR2		Remover for cured adhesives, non-flammable.
For silicones	Remover CR5		Remover for cured adhesives.
For anaerobics	Activator 11		Activator, shorten curing time.
For anaerobics	Activator 17		Activator, for passive surfaces.
For anaerobics	Activator 18		Activator, non-flammable.
For acrylics	Activator 20		Activator, shorten curing time.
Cleaner	10		Cleaner, degreaser.

COMPLEMENTARY PRODUCTS

CATEGORY	PRODUCT	APPROVALS	DESCRIPTION
Silicone grease	Grease 4	Food NSF H1, potable water TZW	Waterproof, lubricant, PTFE based.
Silicone grease	Grease 9	Food NSF H1, potable water TZW	Waterproof, lubricant.
Silicone oil	Oil 1000	Potable water WRAS	Anti-adhesive, lubricant for metal, plastic and rubber.
Silicone oil	Oil 12500		High viscosity anti-adhesive, lubricant for metal, plastic and rubber.

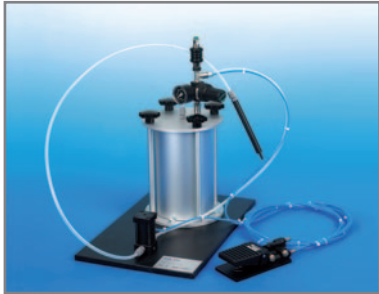
Dosing Systems



DE1

Electro Pneumatic Dosing Unit

Time and pressure control for dosing Anaerobic and Cyanoacrylate Adhesives in replicable quantities (drops, beads, rings or in continuos). It includes Control unit, Reservoir (with empty level sensor), valve, dosing nozzle, actuated by foot switch. End of cycle alarm Sensor for PLC connestions. Tubing is made by PE and PTFE flexible hoses.



DE3

Pneumatic Dosing Unit

For manual dispensing of Anaerobic and Cyanoacrylate Adhesives. Equipped with foot switch dispensing valve. It does not require electrical power supply and it is suitable for use in potentially explosive areas.



DE3M

Pneumatic Dosing Unit

For manual dispensing of Anaerobic and Cyanoacrylate Adhesives. Equipped with manual dispensing valve. It does not require electrical power supply and it is suitable for use in potentially explosive areas.



DE4E

Syringe Dosing Unit

Precise control of time/pressure. The dosing syringe is used as tank to dispense micro drops. Venturi technology to avoid dripping from syringe. Multipurpose, suitable dosing different liquid products.



Loxeal Srl

Via Marconato, 2 - 20811 Cesano Maderno MB - Italy

Tel. +39.0362 5293.1 - Fax +39.0362 524225

www.loxeal.com

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