TECHNICAL DATA SHEET

Methacrylate Structural Bonder
LIONBOND™ TTC-9360A/B

LiONBOND™ TTC-9360 is a two part A&B component system, which is fast setting when mixed via a static mix nozzle at room temperatures. Because it is a high viscosity non-sag material, the mixed material is ideal for all types of gap filling requirements on steel, aluminium, polycarbonates and general plastics. It is also very good on vertical surface bonds because it is an MMA Methacrylate it exhibits excellent structural strength even without priming the surfaces. Because of its macro structure the bonds formed show excellent durability high peel strength even in big gaps and excellent solvent and environmental resistance, resisting fuels, lubricants cleaning chemicals and fluids.

Key Properties

- Fast cure in room temperature
- 1:1 easy mix ratio
- Good resistance to dynamic loading
- Excellent adhesion to Polyester, Epoxy, Fiberglass, composites and wide variety of plastic surfaces.

Product Data

	TTC-9360A	TTC-9360B	Mixture
Appearance	Off white	Yellow	Pale yellow
Specific gravity	Ca 1.0	Ca 0.97	Ca 0.99
Viscosity at 25℃ (Pas) 20 rpm	80-85	80-85	200
Flash Point	>10°C	>10°C	
Operating Temperature:		-40°C to + 180°C max.	
Potlife (100g, 25℃)		60 minutes	
Fixture time		20-30 minutes	

TYPICAL USAGES

Structural joining of metals, plastics, composite bonding and on ceramics where high impact strengths are needed. Applications include wind turbine, vehicle roofs, fibreglass, sports goods, automotive spoilers, vents, housings.

SOLVENT AND ENVIRONMENTAL RESISTANCE

Formulated to meet ASTM D1002 on steel lapshears with a 5mm gap size cured 1 week @ 23°C

	Temperature	1000 Hrs	2000 Hrs
RH100%	40℃	60%	35%
Salt spray	50℃	75%	60%
Water Glycol	20℃	75%	65%

Motor Oil	40℃	75%	93%
Gasiline	40℃	95%	92%
IPA	40℃	75%	90%

At room temperature the product resists all the listed test chemicals, retaining 100% of its full strength.

Heat ageing properties

As a % initial strength	500	1000	2000	°C
100% RI @20°C	90	95	98	@60°C
100% RI @23°C	65	55	60	@70°C

Typical Cured Property

Tensile Strength	Average 3500 psi
Hardness	approx. 68 shore D
Average shrinkage	<5%
ASTM D1002 Lapshears	
On steel/steel:	4150 (Psi)
On aluminium as received	3500 (Psi)
On polycarbonates	2500 (Psi)
On nylon	200 (Psi)
Impact Strength:	>20 KJ/M^2
Elongation %	18%
Shear strengths (approx.)	30%
Determined as % of s/laps	

Processing Pretreatment

The strength and durability of a bonded joint are dependant on proper treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone, trichloroethylene or proprietary degreasing agent in order to remove all traces of oil, grease and dirt. Alcohol, gasoline (petrol) or paint thinners should never be used.
The strongest and most durable joints are obtained by either mechanically abrading or chemically etching (“pickling”) the degreased surfaces. Abrading should be followed by a second degreasing treatment

Application of adhesive

The resin/hardener mix is applied with a spatula to the pretreated and dry joint surfaces. A layer of adhesive 0.05 to 0.10mm thick will normally impart the greatest lap shear strength to the joint. The joint components should be assembled and clamped as soon as the adhesive has been applied. An even contact pressure throughout the joint area will ensure optimum cure.

Storage & Shelf Life

The resin and hardener should be stored in a dry place at 5-25 °C. Reseal container After use.
25℃-6 months, 5℃-9-12 months

Precautions

Lion‘s products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper-not cloth towels should be used to dry the skin. Adequate ventilation of the working area is recommended.