

Description

Letoxit KFL 162 structural film adhesive is an adhesive designed for high-strength bonds. It serves to adhesive bond metallic materials, in particular those of aluminum alloys, as well as many non-metallic materials. Especially it fits for manufacture of sandwich parts including honeycomb structures. The adhesive is one-component, based on modified epoxy resins, and contains suitable curing system. Bonded joints exhibit very good mechanical properties when loaded under temperatures ranging from -75°C to $+100^{\circ}\text{C}$. Therefore the adhesive is particularly useful for bonding land means of transport (both road and rail).

Appearance

The adhesive comes in the form of dark grey film 0.13 – 0.16 mm thick (approx. 170g/m²), flexible and plastic at room or elevated temperatures.

Surface treatment

Surfaces to be bonded must be free from any mechanical impurities and traces of oil or grease and must be dry. Surface pretreatment of parts to be adhesive bonded is a decisive factor affecting strength of the bonded joint. Some materials require special surface pretreatment techniques. Joint between the parts to be bonded must be uniform in order to enable proper contact between surfaces of the bonded parts and the adhesive which will prevent forming of air bubbles.

Note: If the adhesive is not applied to the pretreated surface directly, it is advisable to protect such surface by applying Letoxit PFL 120 primer.

Adhesive application

Using scissors, knife or another suitable cutter, cut the film to size corresponding to shape of parts to be bonded. Then peel off the release paper backing from the profile and lay the adhesive film on to one surface to be bonded, press it to the surface and smooth out thoroughly to prevent formation of air bubbles beneath. Then peel off the other polyethylene interleave and attach the other surface to be bonded. In this way even more complicated structures of many parts can be assembled for adhesive bonding. It is recommended to work at a temperature of 20°C minimum; when bonding section surfaces and more complex configurations, it is advisable to work on so called heated bench (to maintain temperature of surfaces to be bonded between 30°C to 40°C) where the film adhesive becomes very ductile and more adherent.

Curing

The Letoxit KFL 162 adhesive cures at $120-125^{\circ}\text{C}$ for 20 minutes or at $100-105^{\circ}\text{C}$ for 60 minutes. Curing time begins to run from the instant when the temperature inside the joint reaches the stated temperature. In the process of curing the bonded joint is fixed by applying a pressure of 0.05-0.1 MPa. No volatiles are released either at pretreatment of the assembly to be bonded or at cure cycle.

Properties of cured bonded joint

	Loading temperature	Strength
Shear strength at tensile loading according to CSN EN 1465	23°C	30-34 MPa
Peel strength according to CSN EN ISO 11339	23°C	2,5-4,5 N/mm



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TECHNICAL DATA SHEET

Packing

The adhesive is supplied in the form of film 1000 mm wide (or 250 mm according to an agreement), protected with a polyethylene interleave on one surface and a silicone paper backing on the other. It is wound around a tube in a roll 80m² weighing 30 kg maximum.

Storage

The adhesive can be stored for 3 months at temperatures up to +20°C, for 6 months at +5°C and up to 1 year at -18°C, without any change of its properties. The storage period starts to run from the date of shipment, which is stated on the label or in the delivery note. Be sure not to exceed +30°C at transport and storage!

Disposal of leftovers and containers

Leftovers of the adhesive are to be cured under the mentioned cure cycle (e.g. together with bonded parts). Cured adhesive is not hazardous and can be disposed of along with municipal waste.

Producer and Supplier

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