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APM Unocol 818

Description	
System:	1-component adhesive
Colour:	transparent
Viscosity:	liquid, thixotropic
Solid bodies:	100% / solvent-free
Curing:	UV/visible light
Temp. range:	- 40 °C to +150 °C

Specifications	
Directive 2011/65/EC:	RoHS compatible
EC No. 1907/2006:	compliant with REACH
Medical norm:	complies to ISO 10993-5, -12 and -1

APM Unocol 818 is primarily used for the adhesion of plastics such as polycarbonate if high gap filling capability and flexible bonding are required. The product has outstanding adhesive properties on a variety of materials. This includes glass, many plastics and most metals. Due to its thixotropic property, APM Unocol 818 has reduced run-off after the liquid product is applied to the component.

Properties of fluid adhesive	
Viscosity (25°C):	3000 – 7000 mPa*s
Refractive index:	1.48
Spec. Density (25°C):	1.08

Properties of cured adhesive	
Colour:	transparent
Shore D (25°C):	48 - 55
Tensile strength (25°C):	19 N/mm2
Breaking elongation:	250 %

Surface pretreatment / cleaning

The surfaces to be bonded must be dry and free from dust, oil, separating agents and other impurities. The selected type of surface pretreatment is dependent on the requirements profile (cleanliness, strength, age resistance). It is best to clean glass surfaces using the aqueous ultrasound cleaning method at raised temperature. Clean metallic surfaces with aqueous cleaners or clean solvents. For these materials and in particular plastics, surface pretreatment using oxygen plasma has proven successful. Plasma treatment dries the surface and improves wettability. This achieves good adhesion of the adhesive. With plastics, the surface is also chemically modified. With poor adhesive plastics this produces an adhesive surface. Primers are no replacement for surface pretreatment. Adhesion and ageing resistance can also be improved by using primers.

Curing the adhesive

The curing of Unocol 818 takes place by exposure to UV light and/or visible light of sufficient intensity. UV radiation within the range of 220 to 260 nm is required to cure exposed surfaces completely. The curing speed is dependent on the intensity of the UV radiation, the spectral distribution of the light source, the exposure time and the transparency of the substrate to be bonded.

Safety instructions

Avoid contact with skin and eyes. When applying the adhesive, always wear gloves and safety goggles. If adhesive comes into contact with the skin, do not use solvents to remove. Instead wash the affected area (hands) with warm water and soap

Storage

The adhesive has maximum shelf life at temperatures between 8 °C and 21 °C. The shelf life of the two components is at least 9 months under these conditions. When stored at under 8°C and over 28°C the product properties can be negatively influenced.

Disposal

The liquid components of the adhesive must be disposed of as hazardous waste in the same way as synthetic resin or paint components. Under no circumstances mix large quantities (> 100 g) of the components for curing since the curing process is strongly exothermic and could result in the mixture heating up to a dangerous extent. Cured adhesive is disposed of as hazardous waste in the same way as thermosetting plastics depending on local legal requirements or as domestic waste.

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