August, 2022

APM Unocol 943

Description	
System:	1K acrylate modified
Colour:	transparent
Solid bodies:	100% / solvent-free
Viscosity	(25°C): 5000 – 7000 mPa*s
Temp. range:	- 40 °C to +130 °C

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

APM Unocol 943 is a single-component, UV-curing acrylate adhesive. APM Unocol 943 cures in a matter of seconds by exposure to ultraviolet light within the range of 365 nm and achieves impact-resistant adhesive bonds with exceptional resistance against extended exposure to moisture or storage in water. Unocol 943 is used for glass, metal and ceramic adhesive bonds, but also has very good adhesive strength on many plastics.

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 treatment depends on the requirements profile (cleanliness, mechanical strength, ageing 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.
Primers are no replacement for surface pretreatment. Adhesion and ageing resistance can also be improved by using primers.

Applying the adhesive

Condition the adhesive container at room temperature after removal from the cooler.

The ideal processing temperature is at between 20 and 28°C.
Normally, the adhesive can be applied from the cartridge using a dosing device.

Properties of cured adhesive	
Colour:	transparent
Shore D (25°C):	65
Glass transition temp.	35 °C
Refractive index:	1.5
Linear shrinkage:	1.9%
E-module:	550 MPa
Elongation at break:	190 %
Breaking tensile strength:	23 MPa
Decomposition temperature	200 °C

Adhesive curing

Curing takes place with UV light at between 365 nm and 405 nm. The minimum curing time at 365 nm and 100 MW/cm^2 is 5 s. In order to completely cure sticky surfaces, 30 s curing at 200 MW/cm^2 is recommended.

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 and then dry. Liquid adhesive irritates on contact with the eyes and may lead to permanent eye damage. Before use, please observe the instructions in the safety data sheet.

Storage

1-component adhesive must be stored in the dark at a temperature of between 2 and 18 °C! At this temperature the adhesive has a shelf life of at least 9 months.

Disposal

The liquid components of the adhesive must be disposed of as hazardous waste in the same way as synthetic resin or paint components. Cured adhesive is disposed of as hazardous waste in the same way as thermosetting plastics depending on local legal requirements or as domestic waste.