

September, 2023

APM Epicol 318

Description	
System:	1-component adhesive
Chemical Type:	Epoxy
Colour:	grey
Solids:	100% / solvent free
Viscosity:	(25°C): 300 – 600 Pa*s (at 3/s)
Curing:	120 °C 60 min or 150 °C 15 min, minimal: 82 °C 7 hours
Temp. range:	- 55 °C bis +190 °C

Maximum Gap:	3.0 mm
Specifications	
Directive 2011/65/EC:	RoHS compatible
EC No. 1907/2006:	compliant with REACH

APM Epicol 318 is a toughened, single component heat curing epoxy adhesive. It has high shear and peel strength and excellent impact resistance. Epicol 318 provides high reliability in high operating temperature environments. The product can be cured by induction heating or conventional means. Ideal for bonding magnets, oil filters and metal parts subjected to high service temperatures

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). Above all, mechanical pretreatment, e.g. grinding or sand-blasting, achieves an improvement in adhesion for metals and in many cases for non-ferrous surfaces as well. 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.

Applying the adhesive

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

Properties of cured adhesive

Colour:	grey
Shore D (25 °C):	80 -90
Lap Shear Strength (25 °C):	40 N/mm ²
Thermal conductivity:	0.3 W/mK

Glass Transition Temp. (T _g ; °C):	130 °C
Tensile Strength (25 °C):	44 N/mm ²

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

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.

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.

The specifications in this data sheet are based on meticulous tests and our previous experience in everyday practice. They are non-binding instructions, in the same way as our application advisories are also non-binding, whether verbal, in writing or by trials since we cannot accept any liability due to the wide variety of possible influences during processing and application. APM Technica AG disclaims all other explicit or implicit warranties, conditions and terms, be they of real or legal nature, including those which refer to usual market quality, their suitability for a particular use, satisfactory quality or observance of third-party trademarks. APM Technica excludes all liability to the extent permitted by law – whether arising from contract, quasi contract or tort (including negligence) – for direct, indirect and consequential damages, punitive damages awarded by court, loss of business of all kinds, loss of information or data or any other financial losses which may result from the sale, installation, maintenance, use, performance, failure or interruption of operation of the product or in connection therewith, even if we were informed of the possibility of occurrence of such damages. Data and other specifications concerning the nature and suitability of our products are non-binding general conditions and specifically represent no guarantee of certain characteristics. We advise you to perform your own adequate tests to determine the suitability of our products for your specific application. The user is himself responsible for defining the suitability of production methods mentioned in the technical data sheet for his purposes and for taking precautionary measures which are suitable to protect assets and persons from any danger which may occur during the handling and usage of these products. In all other cases our General Terms and Conditions of Business shall apply.

Technical Data Sheet

Adhesives

