

# HANDLING AND MODIFICATION OF PLASTIC PARTS



## TRANSPORT AND STORAGE

The parts must be protected from damage and UV-light, moreover they have to be stored in a dry place, separated by material type in the appropriate PE-bags.

They must not come into contact with any media that can cause tension cracks, e.g.:

- Concentrated mineral acids, aromatic halogenated hydrocarbons, ester, ether, ketone, aldehydes, amine, concentrated alcohol
- solvents (saturated watery solution) e.g. methyl ethyl ketone, tetrahydrofuran, toluol, dimethylformamid, UV-light, high-energy rays

These must be avoided!

A

## SUBSEQUENT PROCESSING

### DRILLING/MILLING

When machining plastic enclosures, make sure to cool with oil-free air only. Drilling and cooling media as well as lubricants can cause tension cracks. Silicone containing lubricants make it impossible to print, paint or aluminum-coat the enclosure, due to bad adherence of the lacquer.

It is necessary to wear fabric gloves when working with high-gloss parts.

B

### BONDING

The quality of a glued connection is depending on many factors, like the materials to be glued, size of glued area and the glue itself. Before serial production it is necessary to test the glue connection under operation conditions.

In no case the glue may contain components indicated under item A.

### ADHESIVE PADS / ADHESIVE FOILS

Cleaning and preparation of surfaces.

Adhesive pads/adhesive foils can be applied to a variety of surfaces. The basic requirement is a clean, dry surface that is free of grease, wax, dust, dirt and silicone. See also Section C.

1

### WARRANTY

Please note that the use of universal adhesive pads and foils is always at your own risk. On account of the different substrates, we cannot accept any liability for failure of the pads/foils to adhere.

Our proposals:

#### SOLVENT GLUE

Methyl-Etyl-Keton (MEK) –  
for ABS against ABS

Clean adherend. Apply once on one  
or both adherents.

Attention: The solvent is highly  
flammable and irritating.

#### 2-COMPONENTS GLUE

Epoxy resin, Araldite 2011 –  
ABS against any partners, preferably  
large areas

Mechanically roughening adherend  
and degrease with methanol /  
isopropanol

#### 1-COMPONENT GLUE

Cyanacrylate, superglue –  
ABS against any partner, preferably  
small areas

Clean and degrease adherend  
with methanol / isopropanol

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## SUPPLEMENTARY MODIFICATION

### LACQUERING, PRINTING, ALUMINUM COATING

In order to achieve enough molecular adherence of supplementary layers, the surface tension (energy) has to be increased by appropriate procedures, without reducing the mechanical values.

The adherence has to be tested by a cross-section test before serial production.

B

### ASSEMBLY

The case assembly is to be done by means of the attached screws and our recommended torque settings. Some screws must not contain any oil or release agents or be secured by a locking varnish.

## CLEANING

Plastic parts must be gently cleaned with the appropriate media during machining or later in use, otherwise there's risk of swelling, corrosion or building of tension cracks.

C

### APPROPRIATE

Clear warm water possibly with a little soap or weak acid/alkaline detergents, Sidol plastic; antistatic foam cleaner; KMR-3 plastic cleaner, plastic cleaner K21 of Solder Chemistry, Kieserol T3 concentrate, Repaplast Cleaner AS, Sakrotan and sterilizing liquids in commercial concentrations.

### SUITABLE TO ONLY A LIMITED EXTENT

Isopropanol, weak alcohols (e.g. ethyl alcohols)

### NOT SUITABLE

Concentrated alcohols and solvents for colours and lacquers.

Mechanically operating detergents like VIM, ATA.

Spirit, Sidolin, benzine, terpentine, acetone, benzol, Frigene.

## ENVIRONMENT

Plastic parts are only limited-resistant against alcohols, aliphatic hydrocarbons, oils, gasoline, diesel and greases.

D

To prevent thermal damage or the release of internal tension, the temperature should be much lower than the heat deflection temperature specified in the relevant material reference values.

This information is for advisory purposes only. All information is provided to the best of our knowledge, but the actual applications are beyond our control. Our information therefore does not exempt you from checking whether the said pads/foils are suitable for the intended processes and purposes.