How to bond POM or acetal plastic

Description

Polyoxymethylene (POM) is a high density thermoplastic, also called **acetal** or polyacetal. Brand names include Delrin, Ultraform and Hostaform*. It is often used as an engineering grade plastic, especially for precision parts. POM is extremely solid, hard and stiff in a wide temperature range. It maintains its high ductility up to -40°C and has excellent abrasion and heat resistance, a low friction coefficient, good electrical, dielectrical and lubricant properties, and permits only minimal water absorption. POM is processed via injection molding, extrusion, extrusion blow molding or machining.

POM has a low surface energy of ~36mN/m and therefore *is typically very difficult to bond*. **Surface treatment** will improve adhesion and bonding results significantly. Our partners Relyon Plasma's test series show that plasma treatment can increase adhesion by a factor of 10.

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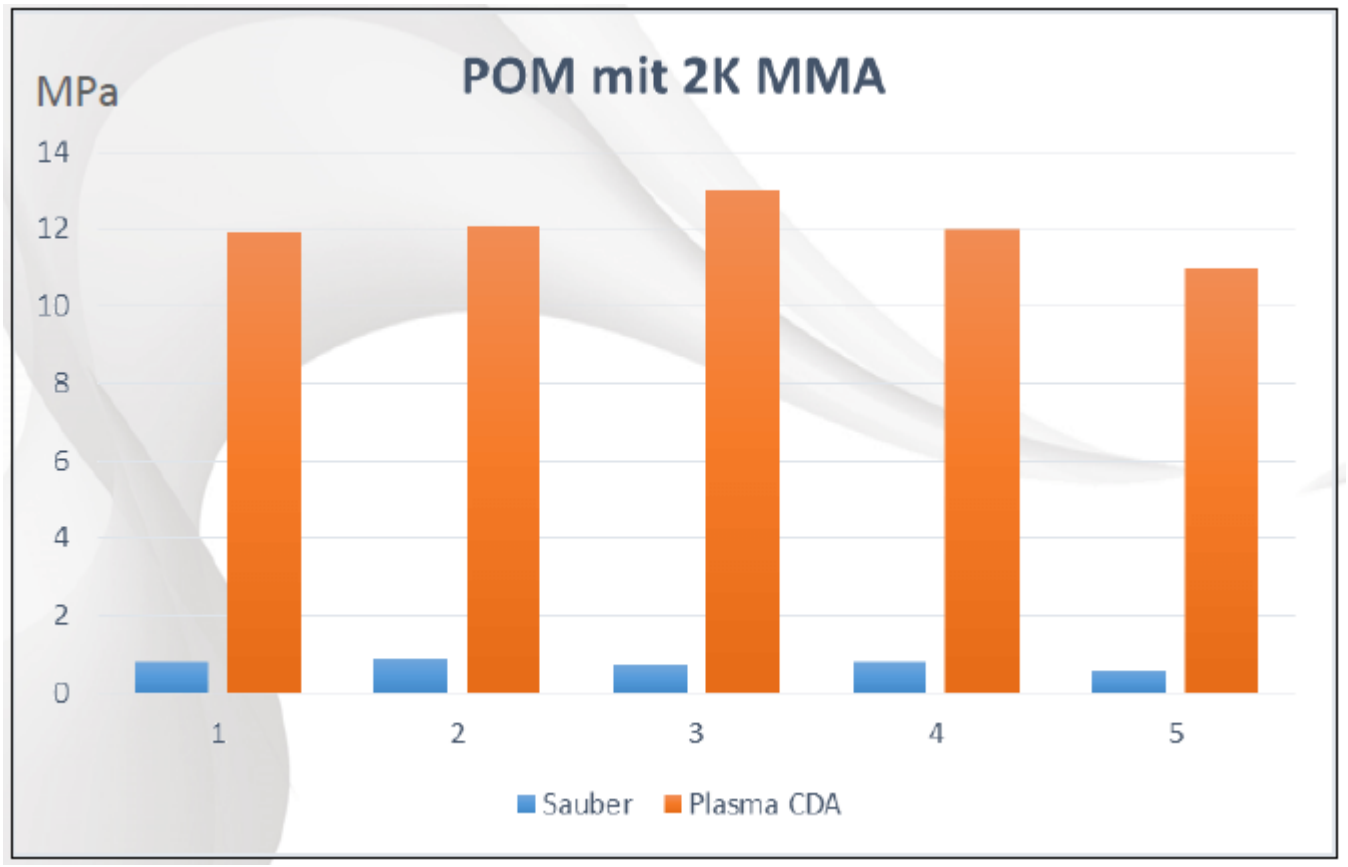

The chart shows the increase in bond strength of five samples – one set have been simply cleaned, the second set have been plasma treated. They were bonded with a two part methyl methacryate adhesive, although other adhesive chemistries can be tested, including epoxy structural adhesives and cyanoacrylate adhesives.

We have **plasma equipment from Relyon Plasma** here in our Technology Centre, suitable for both

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manual applications and inline processes. Combine this with one of our adhesives for successful bonding of POM or acetal plastic.

* Trademarks acknowledged

Supplied by:

intertronics

INTERTRONICS
12a Station Field Industrial Estate, Banbury Road, Kidlington
Oxfordshire England OX5 1JD
t 01865 842842 e info@intertronics.co.uk

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