



UV 106

Plastic Weld UV & Visible Light Bonder

DESCRIPTION

UV106 is thixotropic and cures with both UV and visible light of good intensity.

Designed for bonding plastics, it is ideal for rigid and flexible PVC's in combination to Polycarbonate where a flexible joint is required, with the ability to gap fill up to 0.25mm.

UV106 will also bond glass, metals, and most plastics. UV106 Weld does not immediately stress crack materials, but will induce stress cracking if the dwell time prior to bonding is extended. Tests should be carried out because of the variety of materials and shapes.

UV Curing is obtained in two ways. At 365nm @ min 50mW/cm² fixture is usually achieved in 5 seconds. Lower energy levels will increase the time, as will distance from lamps.

For dry to touch surfaces exposed to air, UV at 260nm is usually required. Depth of cure is dependant on the energy, distance and time.

Typical depth of cure:

- At 100mW/cm² for 30 seconds, > 10mm depth is achieved.
- At 30mW/cm² for 30 seconds, 3-4mm depth is achieved.

Type of lamp, distance and energy levels at the bondface will result in variation of cure, test should be carried out before proceeding to production.

PROPERTIES – (Liquid)

Base:.....Acrylated Urethane

Oligomer(s)

Appearance:.....Pale Amber / Yellow liquid

S.G. @ 20°C:.....1.08 – 1.10

Viscosity DV II Brookfield:

SP 6 @ 20RPM 20°C 5000-7000 cps

R.F. Index:.....est. 1.48

Flash Point:.....>80°C

Temperature Resistance:... up to 135°C

CURED PROPERTIES (TYPICALLY)

1 min 30 seconds @ 50mW/cm²

Tensile Strength(s)

Pillar Test – Glass / Stainless <10N/mm²

Lapshears up to 18N/mm²

Elongation % 2 times max.

Hardness Shore D 50-55

UV INTENSITY

Some lamps emit very low energy in the low 10's (4-5mW/cm²). While this is sufficient to eventually cure the material, it is such low level that it takes 5-6 times the length of time to fixture and subsequently cure. (1-2 minutes exposure).

Similarly visible light of low intensity will give slow fixturing.

For exposed surfaces requiring dry to touch finishes a minimum of 100mW/cm² and UV of 260nm is needed.