

BONDING PLASTIC WINDSCREENS (PMMA AND PC)

Plastic windscreens can be found on vehicles such as:

- Construction machines
- Special purpose vehicles (police, army, etc.)
- Lightweight construction vehicles
- Roof modules on some vehicles

Typical materials used are PMMA (polymethacrylate) and PC (polycarbonate). In the manufacturing process, many poly-




carbonate sheets are coated with a scratch-resistant surface. Unlike standard float glass, plastic windscreens have a much higher thermal expansion coefficient, resulting in greater movement (expansion and contraction of the window). In addition, plastic windscreens do not have ceramic coating on the glass, nor any other integrated UV protection for the bond line. For these reasons, the following procedures must be followed when bonding plastic windscreens.

Permanent glazing

If the coating is unknown, it is recommended to test the surface before bonding (contact Sika for support); otherwise, use the following procedure:

Step 1	Abrade the bonding area with an abrasive pad (e.g. from Sika Abrasives) or sand paper	Remove scratch-resistant coating on the bonding area
Step 2	Remove dust and clean surface with Sika® Cleaner G+P	Clean surface from dust
Step 3	Apply Sika® Primer-207, flash off for 10 minutes	Create suitable surface for bonding
Step 4	Apply Sikaflex®-223. Layer thickness as per table below	Bonding

Adhesive Thickness

LARGEST WINDSHIELD LENGTH	TRIANGULAR BEAD REQUIRED		ADHESIVE BEAD DIMENSION*	
				
L (m)	H (mm)	B (mm)	D (mm)	B (mm)
0.5	8	6	4	6
1.0	8	8	4	8
1.5	12	10	6	10
2.0	16	12	8	12
Over 2.0 Meter			contact Sika	

* Important: confirm to minimal adhesives thickness, D.

UV protection

To ensure a durable bond, the bond line of transparent windscreens must be protected against UV light. Possible solutions are:

- Suitable print color
- Protective metal or opaque plastic trims
- Sika® UV Shielding Tape

Without UV protection, Sika® Primer-207 will eventually wear off on the plastic windshield. The exact point at which this will result in a failure depends largely on the weather, the quality of the synthetic material and the general load.