elcometer 106 Adhesion Tester

Can be used in accordance with ASTM D451, ISO 4624 and BS EN 24624 test methods

The Elcometer 106 is a fully portable adhesion tester which uses the measurement principle of bonding a dolly to the coating using an adhesive and then applying a lift force to the dolly using the spring arrangement housed within the Elcometer 106.

When the dolly is pulled off the surface, an indicator on the scale shows the numerical value of adhesion expressed in terms of the force required to remove the dolly.

The Elcometer 106 is available in 5 versions to test from low adhesion values of 0.05MPa up to 5 - 22MPa

Features

Instrument Dimensions	Height:	152mm	**Gross Weight of Kit in case**	
	Diameter:	76mm	Scales 1, 2 and 5:	2.1Kg
Dolly Size	Diameter:	20mm	Scale 3:	3.4Kg
	Area:	314mm^2	Scale 4:	3.6Kg

Specifications

			MegaPascal		***Newton mm sq***		***Kg per sq cm***		***lbs per sq inch***	
F106----1	Elcometer 106	Scale 1	0 - 3.5	MPa	0 - 3.5	Newton.mm sq	0 - 35.7	kg/cm sq	0 - 500	psi
F106----2	Elcometer 106	Scale 2	0 - 7	MPa	0 - 7	Newton.mm sq	0 - 71.4	kg/cm sq	0 - 1000	psi
F106----3	Elcometer 106	Scale 3	0 - 15	MPa	0 - 15	Newton.mm sq	0 - 153	kg/cm sq	0 - 2000	psi
F106----4	Elcometer 106	Scale 4	0 - 22	MPa	0 - 22	Newton.mm sq	0 - 224.4	kg/cm sq	0 - 3200	psi
F106----5	Elcometer 106	Scale 5	0 - 0.2	MPa	0 - 0.2	Newton.mm sq	0 - 2.04	kg/cm sq	0 - 30	psi

Part Numbers - Spares

T1061302- Spare Cutter
T1062589- Spare Araldite Twin Pack Adhesive
T1062895- Spare Dollies (100)
T1062904- Spare Base Ring
T1062914- 5 x 40mm Large Dollies#
T1062923- Spare Dolly Clamp
T1062915- Base Ring for Large Dollies

(**Large Dollies** are ideal for testing coatings on **Rough Surfaces** like **Concrete**)

These dollies can be used with the Elcometer 106 Scale 2 to test low adhesion, by dividing the reading by four.

Shipping List: Elcometer 106, 20 Dollies, Araldite Adhesive Pack, Base Support Ring, Magnetic Clamp, Cutter, Ratchet Spanner (Scales 3 and 4 only), Carry Case and Operating Instructions.

Results obtained from tests with the Elcometer 106 Adhesion Tester

Paint Systems

N/mm sq (Mpa)	Comment
0 - 0.3	Blistered. Coating feels loose to the touch.
0.3 - 0.7	Suspect adhesion or intercoat cohesion.
0.7 - 3.5	System still soft. Not cured.
>3.5	Testing to be specified forces
13.8	Material testing of thick coats

Other Systems

N/mm sq (Mpa)	Comment
3.5	Epoxy on concrete
3.5 - 13.8	Polystyrene paint
13.8 - 34.5	Polyvinyl acetate paint
24.1 - 27.6	Alkyd paints
82.7	Zinc etch primer
17.2 - 27.6	Flame sprayed metal on steel
2.4 - 4.5	Primer on wood

General Comments : The above results are approximate figures and should be used as a guideline. Each tester produces a different failure mechanism at the test point. This means that there is little correlation between methods. Users should therefore refer to the testing specifications to ensure the correct test method is chosen.

Glue selection : The glue should be stronger than the bond being tested, it should not effect the coating, it should fully cure in local conditions.

Acrylic Paste : Slow curing, about 24 hrs, idela for rough & curved surfaces & for gaps eg Loctite Multi-bond 330

Cyano-acylate : Fast curing, about 45 min, eg Scotch M2000

Epoxy : a 2 part paste, heating in oven will cure in 30 min, good for rough & curved surfaces, not good for Shiny eg Araldite