



Anglo Adhesives & Services Ltd.

INDUSTRIAL ADHESIVE MANUFACTURERS - CONTRACT FILLING AND PACKAGING

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TECHNICAL DATA SHEET ANGLO TECH TE181 ENGINEERING ADHESIVE

DESCRIPTION

Anglo-Tech TE181 is a single part, heat cured, epoxy adhesive. It contains an in-built rubber toughening component to enhance peel strength and impact resistance. It displays high shear strength in many hostile environments.

Cure time for Anglo-Tech TE181 is 30 minutes at 160°C. This cycle is only a representative, time and temperatures can vary, depending on the substrates being bonded.

This adhesive uses FDA approved raw materials.

APPLICATIONS

Anglo-Tech TE181 bonds most metals and plastics that are not affected by the curing temperature and so find applications in the engineering industry.

INSTRUCTIONS FOR USE

Reference should be made to the Material Safety Data Sheet.

Anglo-Tech TE181 may be applied by spreading with a trowel, roller coater or extrusion gun.

Anglo-Tech TE181 does NOT have any green strength or grab, therefore the articles or assemblies to be bonded must be supported in jigs or clamps until full cure has been reached.

Anglo-Tech TE181 will bond oil-contaminated surfaces; however, lightly abraded and clean surfaces will achieve the highest results. Anglo Cleaner may be used for cleaning substrate surfaces and equipment.

PROPERTIES

Appearance	-	Viscous, white paste
Alternative colours	-	Black, Grey
Specific Gravity	-	1.3

Typical test results on Anglo tech TE181

Shear strength on steel 10mm overlap, 25mm wide bond

Cure Cycle

Environmental Conditions

105°C for 2.5 hours		18.1MPa	2625 psi
115°C for 1.5 hours		23.3MPa	3380 psi
125°C for 1 hour		19.3MPa	2805 psi
135°C for 45 mins		21.3MPa	3095 psi
140°C for 30 mins	Ambient	23 MPa	3340 psi
160°C for 30 mins	Ambient	26 MPa	3770 psi
190°C for 30 mins	Ambient	28 MPa	4060 psi
200°C for 120 mins	Ambient	28 MPa	4060 psi
160°C for 30 mins	@ 60°C	24 MPa	3480 psi
160°C for 30 mins	@ 120°C	17 MPa	2460 psi
160°C for 30 mins	after 168 hours @ 120°C	28 MPa	4060 psi
160°C for 30 mins	after 4 months in immersion in ethanol	25 MPa	3620 psi
160°C for 30 mins	environmental cycling (-40°C humid, dry heat)	29 MPa	4200 psi
160°C for 30 mins	humidity 100%RH, 42-48°C	22 MPa	3190 psi
160°C for 30 mins	salt spray, 5% NaCl 500hrs @ 35°C	20 MPa	2900 psi

Peel Strength on Steel

160°C for 30 mins	Ambient	11 N/mm	63lbs/inch
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Cured Film Time of Anglo Tech TE181

Heat Distortion Temperature (HDT)	120°C approx
Glass Transition Temperature	150°C approx
Differential Scanning Calorimeter (DSC)	
Activation Temperature	160°C approx
Hardness, Shore (A)	90-95°C approx

HEAT EXPOSURE RESISTANCE

Steel bonds 0.5" overlap, exposed at 180°C

Exposure Time, days		0	1	2	3	4	5	6
Shear strength at 23°C	MPa	23.6	24.1	24.1	24.3	24.1	24.3	24.1
	Psi	3415	3490	3490	3525	3490	3525	3490
Shear strength at 180°C	MPa	6.4	9.9	10.7	17.9	21.6	10.4	9.2
	Psi	935	1440	1545	2590	3130	1510	1330

Initial increase at 180°C indicates post-cure of the adhesive followed by degradation and corrosion of the steel.

STORAGE

Store in dry conditions between 5 and 25°C

SHELF LIFE

12 months in above conditions