

GRP Roof 1010 Technical Datasheets

1. GRP Roof 1010 Base Coat Resin

1.1. Application

Res-Tec GRP Roof 1010 Basecoat is primarily designed for use in the fibre reinforced base layer of the GRP Roof 1010 liquid applied roofing system.

1.2. Description

Characteristic	Benefit
Orthophthalic Polyester Resin	Excellent structural and water resistant properties
Quick curing, with low-tack cured surface	Early "walk-on" and detail sanding
Reduced Styrene emission	Lower odours
Pre-accelerated	All year round fast curing
MEKP liquid cured	Easy catalyst dosing
Catalyst colour change mechanism	Confirms catalyst is added and well mixed
Low viscosity / fast wetting	Rapid wetting of the glass fibres and early conforming to detail work
Thixotropic	Prevents drainage/sagging from vertical surfaces

1.3. Recommendations

Read the full Res-Tec GRP Roof 1010 application manual before use. Wear PPE and observe all safety instructions.

- Protect the containers from extremes of temperature in storage and especially just before use.
- Ensure base boards are 100% dry before application.
- Do not begin work in wet conditions or if rain is likely.
- Use only above 5°C air and deck temperature and below 30°C air temperature.
- Always stir well in the original container before use or decanting.
- GRP Roof 1010 Catalyst should be added between 1 and 4% depending on conditions and desired pot life .
- Intended application rate is 1 litre/m² when using 450 gm CSM.
- Apply by synthetic roller and consolidate the laminate with a paddle roller.
- Clean tools with Acetone after use.

1.4. Catalysing

For most conditions catalyst should be added between 1.5 and 2.5% (see manual for % versus volume addition charts). For very cold temperatures 2-4% is typical, and for very warm conditions 1.0-1.5% is typical. As a working guide 2% catalyst will give approximately 85 mins working time at 5°C and 11mins at 30°C. Adjust the catalyst level up or down to obtain the desired pot life and cure. Never add less than 1% or more than 4% as full cured properties will not be achieved.

1.5. Typical Liquid Resin Properties

Viscosity at 25°C (Brookfield) Spl 6, 6 RPM	2275 MPas
Viscosity at 25°C (Brookfield) Spl 6, 60 RPM	700 MPas
Thixotropic index	3.25
Gel time (25°C, 1.5% 1010 Catalyst)	18 Mins
Specific Gravity @ 25°	1.17
Flashpoint	32°C
Shelf life (unopened containers stored at < 25°C)	6 Months from delivery date

1.6. Typical Cured Resin Properties

Test	Method	Unit	CSM Laminate (1)
Tensile Strength	Iso 527	MPa	94
Tensile Modulus	Iso 527	GPa	8.75
Elongation At Break	Iso 527	%	1.8
Flexural Strength	Iso 178	MPa	174
Flexural Modulus	Iso 178	GPa	7.2
Heat Distortion Temperature	Iso 75	°C	N/A
Barcol Hardness	ASTM D2583-07	Barcol	47

(1) 4 x 450 g/m² CSM, 30% glass by weight, catalysed with 1% GRP Roof 1010 Catalyst and post-cured for 4 hours at 80°C

1.7. Storage

Store in closed containers, below 25°C in a well-ventilated place. Storage at or significant exposure to higher temperatures may cause gelation in the product or loss of quality. Avoid sources of ignition.

2. GRP Roof 1010 Top Coat Resin

2.1. Application

Res-Tec GRP Roof 1010 Topcoat is primarily designed for use as the coloured, waterproof topcoat layer applied over the reinforced basecoat of the GRP Roof 1010 liquid applied roofing system.

2.2. Description

Characteristic	Benefit
Isophthalic Polyester Resin	Excellent structural and water resistant properties
Toughened	Crack-resistant formula
Pre-pigmented Dark Admiralty Grey	Attractive colour and finish
Reduced Styrene emission	Lower odours
Pre-accelerated	All year round fast curing
MEKP liquid cured	Easy catalyst dosing
Catalyst colour change mechanism	Confirms catalyst is added and well mixed
Low viscosity / fast wetting	Rapid wetting of the glass fibres and early conforming to detail work
Thixotropic	Prevents drainage/sagging from vertical surfaces

2.3. Recommendations

Read the full Res-Tec GRP Roof 1010 application manual before use. Wear PPE and observe all safety instructions.

- Protect the containers from extremes of temperature in storage and especially just before use
- Always stir well in the original container before use or decanting
- For best results apply in cool overcast conditions – avoiding direct sunlight if possible
- Do not begin work in wet conditions or if rain is likely
- Use only above 5°C air and deck temperature and below 30°C air temperature.
- Ensure sub-laminate is 100% dry before application (see application manual for best drying methods)
- Lightly abrade then Acetone wipe the base laminate if top-coating more than 24 hours after base is applied
- GRP Roof 1010 Catalyst should be added between 1 and 3% depending on conditions and desired pot life
- Apply by roller or brush at a coverage rate of 0.5 litres/m². Do not over or under-apply
- Clean tools with Acetone after use

2.4. Catalysing

For most conditions catalyst should be added between 1.5 and 2.5% (see manual for % versus volume addition charts). For very cold temperatures 2.5 - 3% is typical, and for very warm conditions 1.0-1.5% is typical. As a working guide 2% catalyst will give approximately 85 mins working time at 5°C and 8 mins at 30°C. Adjust the catalyst level up or down to obtain the desired pot life and cure. Never add less than 1% or more than 3% as full cured properties will not be achieved.

2.5. Typical Liquid Resin Properties

Viscosity at 25°C (Brookfield) Spl 6, 6 RPM	8925 MPas
Viscosity at 25°C (Brookfield) Spl 6, 60 RPM	2250 MPas
Thixotropic index	3.95
Gel time (25°C, 1.5% 1010 Catalyst)	16 Mins
Specific Gravity @ 25°	1.32
Flashpoint	32°C
Shelf life (unopened containers stored at < 25°C)	6 Months from delivery date

2.6. Typical Cured Resin Properties

Test	Method	Unit	Cast Resin (1)
Tensile Strength	Iso 527	MPa	43
Tensile Modulus	Iso 527	GPa	4.6
Elongation At Break	Iso 527	%	1.3
Flexural Strength	Iso 178	MPa	68
Flexural Modulus	Iso 178	GPa	3.8
Heat Distortion Temperature	Iso 75	°C	74
Barcol Hardness	ASTM D2583-07	Barcol	43

(1) Catalysed with 1% GRP Roof 1010 Catalyst and post-cured for 4 hours at 80°C

2.7. Storage

Store in closed containers, below 25°C in a well-ventilated place. Storage at or significant exposure to higher temperatures may cause gelation in the product or loss of quality. Avoid sources of ignition.