

FEATURES

Advantages:

- Easy mixing - 4 : 1 ratio by volume
- Excellent cure characteristics with a good "tail" - mixed resin retains good flow throughout its pot life
- Good working pot-life facilitates efficient aggregate mixing and excellent laying characteristics
- Low viscosity with excellent wetting properties
- Cures well at low temperatures
- "Fast" Hardener option using *Altex 421 Epoxy Resin Part B* - NZ Product Code:- **880B** "xxx" (xxx being "010" and "040" – 1 litre and 4litre container)
- Good flow characteristics and low viscosity minimize air entrapment
- Low odour

RECOMMENDED USES

421 Tuff~Top Resin is a high quality industrial and marine grade epoxy resin specifically developed for heavy duty monolithic floor toppings when mixed with selected grades of aggregates.

421 Tuff~Top Resin may also be mixed with various additives to provide site mix fairing, gap filling glue and coving compounds.

Guide Compounding Formula:

Screed mixes are very much dependant on individual preferences and the desired effects.

A basic well-proven mix providing a durable general purpose topping suited to finishing with a high build epoxy or high build polyurethane may be as follows:-

421 Tuff~Top Resin mix	5.55 kg (= 5 litres)
7/14 Graded Quartz	12.0 kg (~ 4.5 litres)*
18/36 Graded Quartz	12.0 kg (~ 4.5 litres)*
J61W Washed Sand	6.1 kg (~ 2.3 litres)*

This mix makes approximately 16 litres of screed mix sufficient for 4 square metres at 4 mm thickness.

*Aggregate volumes stated are actual 'solid' volume, not bulk volumes as dry powders. Aggregates should always be measured by weight.

SPECIFICATION DATA

Generic Type:	100% Solids Epoxy Resin
Colour:	Pale Amber
Packaging:	<u>Base</u> :- 4, 16 and 200 litre <u>Std Hardener</u> :- 1, 4 and 20 litre <u>"Fast" Hardener</u> :- 1 and 4 litre
Mix Ratio:	4 to 1 v/v - Base : Hardener 1 : 0.212 w/w – Base : Std Hardener 1 : 0.215 w/w – Base : Fast Hardener
Flash Point:	Greater than 100°C
Thinner:	Not normally recommended Clean up with Thinner 1/2
Pot Life:	250gm mix – 25 Mins at 20°C*
Storage:	Store under cool, dry conditions

* With Fast Hardener pot-life is reduced to 9 – 12 minutes

Density:	1.11 kg per mixed litre – average Mixed screed (above) = 2.18 kg / litre
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Typical Properties of Cured Resin (Unfilled):

Shore D Hardness	=	79
Heat Distortion Temperature	=	60°C**
Tensile Strength	=	11-12000 psi
Compression Strength	=	10000 psi
Elongation	=	4%
Flexural Strength	=	16000 psi
Flexural Modulus	=	400000 psi

** With Fast Hardener HDT is increased to 75°C

Note:

Cured properties are strongly dependant on the cure conditions. In particular, high humidities combined with low temperatures during cure will have detrimental effects on cured properties, especially those of thin films. Maximum cured properties will be achieved after post cure at elevated temperatures (eg 24 hours at 80°C or 3 hours at 125°C).

SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free of all foreign matter.

Concrete Floors

For maximum performance concrete floors should be cured for 28 days or equivalent. Surface laitance should be removed by chemical (acid etching) or mechanical (grinding, abrasive blasting etc) means.

Any unsound or porous areas should be sealed and strengthened by application of Pre-Prime 167 or a 60 : 40 v/v solution of 421 Tuff~Top Resin mix and Thinner 1/2.

Metal Floors

All surfaces should be mechanically profiled to provide adhesion. This is best accomplished by abrasive blasting or grinding with clean coarse discs – in each case exposing clean, bright parent metal.

At all floor peripheries, and on all floors in potentially corrosive environments and exposed to mechanical damage, it is recommended the metal be primed before applying Tuff~Top Epoxy Screed. This is to mitigate the effects of corrosion under-cutting of the topping.

Steel surfaces may be primed with Cathacoat 315 Epoxy Zinc Primer at 30 microns DFT or in chemical exposures with Devran 201 Primer at 50 microns.

Aluminium or Galvanized surfaces may be primed with Altra~Bond 3094 at 15 – 20 microns DFT.

DIRECTIONS FOR USE

Mixing:

421 Tuff~Top Resin is a two component product that must be carefully and quickly mixed in the correct ratio - 4 parts resin base to 1 part hardener, by volume.

Part kits and small quantities should always be mixed by **weight** for best accuracy. Weight mix ratios for the Base and the Standard and Fast Hardeners are listed on the front of this data sheet. Scales with a minimum accuracy of 0.01 Kg (10 gm) should be used.

The 421 Tuff~Top Resin components should be thoroughly mixed before adding the selected aggregates. At all times avoid entraining air in the mix.

Clean-up:

Use Thinner 1/2

Application:

Where possible it is recommended to 'tack-coat' the prepared (and sealed or primed) surface with a thin layer of 421 Tuff~Top Resin mix (unfilled) and lightly broadcast fine aggregate into the resin 'tack coat'. This will provide a surface that reduces the tendency for the Tuff~Top screed mix to 'slide' over the surface when being trowelled or screeded.

421 Tuff~Top screeds may be laid to varying thicknesses ranging from 4mm to a maximum recommended 12mm in a single coat.

After laying the topping it is recommended to roll through and over the liquid mix with a porcupine roller to remove any entrained air and aid with the self-levelling of the topping.

Either between coats or before applying the selected finish coat it is also recommended to water wash the surface of the cured Tuff~Top screed to remove any traces of amine bloom or carbamation, particularly in humid or cold conditions.

PRECAUTIONS

For industrial use only. See the Altex Coatings Limited General Safety Data Sheet, product label and Material Safety Data Sheet (MSDS) for health and safety information prior to use.

421 Tuff~Top Resin is flammable. Keep away from heat, sparks and open flame. Use with adequate ventilation. May cause eye and skin irritation. Do not breathe vapour or spray. Wear suitable protective clothing such as gloves and eye and face protection.

ALTEX COATINGS LIMITED

Head Office New Zealand	Head Office Australia	DISCLAIMER
91-111 Oropi Road Greerton, Tauranga PO Box 142 Tauranga Mail Centre Phone: +64 7 5411 221 Fax: +64 7 5411 310 www.altexcoatings.co.nz	7 Production Avenue Ernest Junction Queensland 4214 Australia Phone: +61 7 5594 9522 Fax: +61 7 5594 9093 www.altexcoatings.com.au	This is not a specification and all of the information is given in good faith. Since conditions of use are beyond the control of the manufacturer, information contained herein is without warranty, implied or otherwise, and final determination of the suitability of any information or material for the use contemplated, the manner of use and whether there is any infringement of patents is the sole responsibility of the user. The manufacturer does not assume any liability in connection with the use of the product relative to coverage, performance or injury. For application in special conditions, consult the manufacturer for detailed recommendations.