

Technical Data Sheet

WEAR RESISTANT CERAMIC COATING

1300 45 99 39

www.tuffstufftech.com

June 2009

Page 1/2

Product Description

TUFFY ENDURO is a 2 part epoxy ceramic wear resistant material that provides the following product characteristics:

Technology	Epoxy
Chemical type (resin)	Bisphenol A resin
Chemical type (hardener)	DETA
Appearance (resin)	Clear
Appearance (hardener)	Amber
Appearance (mixed)	Clear
Components	Part A and Part B
Mix ratio by volume	4:1 – Part A : Part B
Cure	Room Temp. @25°C
Tack time/Gel time	35 min @ 25°C
Total cure time	8 hours @25°C
Ceramic	Al ₂ O ₃
Ceramic type	Fused Al ₂ O ₃
Ceramic grit size	>80% 30/60
Colour mixture	Bronze
Epoxy/Ceramic ratio	>70% w/w ceramic

TUFFY ENDURO ceramic reinforced epoxy is designed to minimise sliding abrasion and corrosion wear. When used by itself, equipment life can be extended by direct application to ceramic, concrete, steel, and rubber substrates where it exhibits very high peel strength. It also can be reapplied to itself or used as a top coat to prolong wear life. Typical uses include: cyclone linings, pump linings, chutes, hoppers, pipes, pipe bends, tile grouting, dust collectors and exhausters, etc. Can be reapplied to itself and other ceramic coatings.

Characteristics

- Excellent sag resistance
- Easy to mix and use
- High trowelability
- Won't shrink
- High slump resistance
- High peel strength from substrate
- Low fumes - low VOC
- High impact and abrasion resistance
- Can be used on wet and damp surfaces

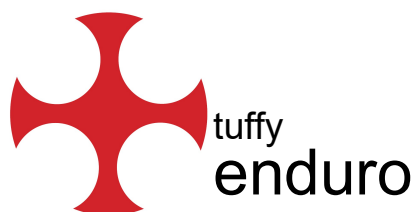
Typical Properties of Uncured Material

Part A Resin	
Equivalent weight	185-192
Viscosity	110-150 @ 25°C
Density	1.16
Flash point	No flash at 249°C
Vapour pressure	0.03 mm Hg @ 77°C
Refractive Index	1.573
Specific heat	0.5 cal/g/°C
Molecular Weight	<700 Daltons

Part B Hardener	
Equivalent weight	185-192
Viscosity	110-150 @ 25°C
Density	1.16
Flash point	No flash at 249°C
Vapour pressure	0.03 mm Hg @ 77°C
Refractive Index	1.573
Specific heat	0.5 cal/g/°C
Molecular Weight	<700 Daltons

TUFF STUFF TECHNOLOGIES PTY LTD

63 Daraya Rd, Blacktown NSW 2148 | Phone: 1300 45 99 39 | Email: sales@tuffstufftech.com
WWW.TUFFSTUFFTECH.COM



Technical Data Sheet

WEAR RESISTANT CERAMIC COATING

1300 45 99 39

www.tuffstufftech.com

Cont'd - June 2009

Page 2/2

Typical Properties of Uncured Material cont'd

Ceramic Bead	
Density	3.06
Shape	Round
Hardness (mohs)	9.2
Chemical composition	>92% Al ₂ O ₃

Typical Properties of Cured Material

To achieve product best use and performance, thorough mixing is required. Application with a clean dry trowel achieves best results. A smooth finish can be obtained **without** the use of water or oil, typically 20 mins after mixing when best workability is possible. Heating can be applied to accelerate cure time. Thick applications cure faster due to the exothermic reaction of the reactants.

Characteristic	Typical Value
Appearance	Bronze paste
Coverage	2.8kg - 1sqm at 1mm
Working life	40 mins @ 25°C
Compressive strength	10,000 (N/mm ²)
Hardness ASTM D-2240	90 Shore D
Peak exotherm	216°C
Tensile strength	11,500 psi
Flexural strength	18,000 psi
Izod impact, ft. • lbs./in	0.64
Weight loss @ 100°C	0.4%
Volume resistivity	1.4x10 ¹⁵ (ohm cm)
Dielectric const. @ 10 ⁶ Hz	4.26

Chemical Resistance

Chemical	30 day immersion (wt. % gain)
Water	0.5
10% H ₂ SO ₄	0.4
10% Acetic	5.5
10% NaOH	0.4
Xylene	0.1
1,1,1, Trichlorethane	0.5
Methanol	7.19
MEK	0.37
Methylene Chloride	20.46
Ammonium Hydroxide	2.16
50% Phosphoric Acid	1.23
Toluene	2.2
Carbon Tetrachloride	0.1
Jet fuel	1.4
40% Nitric Acid	Sample destroyed

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Tuff Stuff Technologies specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Tuff Stuff products. Tuff Stuff specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.**

TUFF STUFF TECHNOLOGIES PTY LTD

63 Daraya Rd, Blacktown NSW 2148 | Phone/Fax: 1300 45 99 39 | Email: sales@tuffstufftech.com
WWW.TUFFSTUFFTECH.COM