

**ENDURACOAT® TANKGUARD WW**  
PROTECTIVE LINING - WATER & WASTE WATER

**GENERAL PROPERTIES**

**ENDURACOAT TANKGUARD WW** is one of a family of new materials derived from renewable resource feedstock. The product is a versatile 100% solventless polyurethane utilising renewable resources and exhibiting the same tough durable, wear resistant properties associated with conventional polyurethanes.

**ENDURACOAT TANKGUARD WW** has been carefully formulated, particularly with regard to its reaction kinetics, to exhibit the following properties:

- Controlled cross-linking reaction
- Simple two-component mix ratio
- Ease of application through plural component equipment
- Excellent durability and wear-resistance
- Excellent thermal and hydrolytic stability
- Solventless, 100% solid membrane
- Excellent adhesion to both concrete and steel
- Unlimited film build capabilities
- Controlled cure rate
- Excellent resilience and flexibility
- Good adhesion to a variety of substrates

**RECOMMENDED USES**

**ENDURACOAT TANKGUARD WW** has been developed primarily for the protection of concrete and steel in erosive and corrosive environments. It is particularly suited as a lining in water and waste water applications but can also be used as a stabilising coating with or without the use of geotextile reinforcement.

As a secondary containment lining material, it can also be used with or without a geo-textile fabric.

Particularly suited to the repair of old, eroded concrete structures to create a repairable protection layer and stop concrete loss.

As an abrasion resistant lining, **ENDURACOAT TANKGUARD WW** can be used to repair and extend the life of cyclones and races.

**TYPICAL PROPERTIES**

<b>Generic Type</b>	Castor derivative elastomeric poly-urethane membrane
<b>Chemistry</b>	Two component cross-linked
<b>% NV</b>	100% (Zero VOC)
<b>Colour</b>	Grey
<b>Tensile Strength</b>	18-20 MPa DIN EN ISO 527-2:2012-06
<b>Elongation</b>	50-55% DIN 53504
<b>Hardness Shore D</b>	60—65 D DIN 53505
<b>Abrasion Resistance</b>	30-38 mg weight loss DIN ISO 4649:2006-11
<b>Tear Resistance</b>	60 N/mm DIN 535515
<b>Compressive Strength</b>	25—30 DIN 53421
<b>Impact Resistance</b>	120 J/mm <sup>2</sup> DIN 53453
<b>Surface Temperature Resistance</b>	- 30°C to 65°C dry Max 50°C Immersion—(raw water)
<b>Cathodic Dis-bonding</b>	Passes DIN 30671
<b>Bending Strength</b>	10-12 MPa DIN 53542
<b>Specific Gravity:</b>	
<b>Part A</b>	1.24 gmL <sup>-1</sup>
<b>Part B</b>	1.07 gmL <sup>-1</sup>
<b>Mixed</b>	1.13 gmL <sup>-1</sup>
<b>Mix Ratio</b>	1 A : 2 B by volume

Industries where **ENDURACOAT TANKGUARD WW** finds applications are typically:

- Water and waste water
- Oil and gas
- Energy generation (hydro, thermal and geo-thermal)
- Mining
- Marine
- Civil construction



**PACKAGING:**

**600L kit comprising:**

Resin: 2 x 200L drums;

Isocyanate: 1 x 200L drum.

Total Gross Weight: 750Kgs.



## EQUIPMENT REQUIREMENTS & APPLICATION CHARACTERISTICS

### Spray Equipment

Recommended spray application equipment: Graco Re-actor plural component E-XP1 or E-XP2 electric proportioner or H-P2 hydraulic proportioner with 2:1 mix ratio capability and Graco XTR 5 airless spray gun incorporating in-line static mixer and solvent flush.

Typical set up: Graco reactor E-XP1 with up to 200 foot hose length (up to 300 foot with the E-XP2 and H-XP2 proportioners), recirculation system, Graco XTR 5 airless spray gun and Graco T2 drum pumps supplying proportioners. Spray tips 0.025" for low output and up to 0.065" for high output.

<b>Mix Ratio</b>	1A:2B by volume
<b>Pot Life</b>	6-8 minutes
<b>Dry to touch @ 22°</b>	15 minutes @ 1 mm
<b>Recommended thickness</b>	2mm per pass. Unlimited build
<b>Minimum Cure Temp.</b>	-2°C
<b>Ambient Temp.</b>	5 to 50°C
<b>Materials Temp.</b>	25—35°C
<b>Substrate Temp.</b>	Min 5°C Max 60°C (min 3°C above Dew Point)
<b>Ambient Moisture</b>	Max 95°C RH
<b>Return to Service</b>	2 hours @ 22°C
<b>Theoretic Coverage</b>	1m <sup>2</sup> /L @ 1mm
<b>Flush Solvents</b>	Machine Flush
<b>Cleaning Solvents</b>	Methyl Proxitol, MEK
<b>Packaging</b>	600L Drum Kit
<b>Sales Unit</b>	Per kit
<b>Shelf Life</b>	6 months

**Mixing:** thoroughly mix Part B with air-driven agitator for 30 minutes just prior to use. Part A requires no agitation before using.

### SURFACE PREPARATION

#### Concrete

For new concrete allow 28 day cure. Decontaminate per ASTM D-4258, then abrasive blast clean as per ASTM D-4259 to produce surface profile resembling coarse sandpaper removing all preparation debris. Eliminate leaks and infiltrations and remove standing water.

Resurface areas with excessive cavities (bugholes etc) or exposed aggregate using a high-strength, rapid-cure, zero-shrinkage resurfacing product. Wherever possible, synthetic veil, fibreglass screen or geotextile fabric may be embedded within the **Enduracoat Tankguard WW** coating to "bridge", rather than resurface cavities, thereby eliminating resurfacing compounds. The surface must be dry and the concrete must have a moisture content below 5%. Vacuum to dust-free condition before priming.

### Carbon Steel

For direct-to-metal application, decontaminate surface per SSPC-SP-1 "Solvent cleaning" if needed, then abrasive blast clean per SSPC SP-10 "Near-White Condition" to produce nominal 3.5 mil surface profile. Remove flash rust for SSPC SP-7 "Brush-Off Blast Cleaning". Substrate must be dry and dust free before coating. Application to wet surfaces is not recommended.

### Previously coated Enduracoat Tankguard WW

Older coatings should be cleaned, lightly abraded to remove any oxidised material and cleaned thoroughly and the surface re-activated prior to recoat. Please consult your technical representative.

### SET TIME, RECOAT TIME & FULL CURE

This material will become tack-free typically from 15 minutes of spraying at 1mm thickness. Thicker applications will reduce the tack free time.

**Enduracoat Tankguard WW** may be sprayed "wet on wet" or when tack-free (within the recoat window).

Development of full cure may take upto 5 days at 25°C.

### COVERAGE RATES:

Coverage per 600L kit.

Typically 600m<sup>2</sup> per 600L kit when applied at 1mm thickness.

Thickness:	Coverage:
1mm	600m <sup>2</sup>
3mm	200m <sup>2</sup>
5mm	120m <sup>2</sup>
10mm	60m <sup>2</sup>

Coverage excludes spraying losses.



### CHEMICAL RESISTANCE:

Chemical	Exposure:
Raw Sewage	A
Hydrogen Sulphide	A
Hydrochloric Acid 15%	A
Lactic Acid	A
Sulphuric Acid 25%	A
Nitric Acid 5%	C
Sodium Hydroxide 20%	A
Ammonium Hydroxide 20%	A
Sodium Nitrite	C

**A** suitable for continuous immersion

**B** suitable for temporary exposure < 28 days

**C** suitable for splash & spillage only - 24 hour clean up recommended

**NR** not recommended for immersion

## POLYMER GROUP LTD

PO Box 204 106 Highbrook, Auckland 2161, New Zealand Telephone: 64-9-274 1400 Fax: 64-9-274 1405

Email: sales@polymer.co.nz www.polymer.co.nz



## STORAGE AND HANDLING PRECAUTIONS

**ALL CHEMICALS MUST ONLY BE USED BY TRAINED PERSONNEL.**

**Storage:** KEEP DRY! Do not place drums directly over concrete or earth; store on top of wood slats or pallets. Blanket partial drums internally with nitrogen gas to prevent moisture contamination. Avoid freezing. Do not open until ready to use. Rotate Part B drums regularly if stored for long term.

Under the recommended storage conditions and kept sealed, the kit has a nominal storage life of upto 6 months at a recommended temperature of 20-25°C.

### **Confined Spaces:**

Provide forced air ventilation. All personnel must use self-contained breathing apparatus.

Ensure adequate ventilation and extraction to prevent the accumulation of any flammable vapours. Utilise monitoring equipment.

Comply with all local regulations relative to work in confined spaces.



## HEALTH AND SAFETY ADVICE

Refer to Polymer Group Safety Data Sheets for individual products. Also refer to the *Approved Code of Practice for the Safe Use of Isocyanates*.

### **PRECAUTIONS**

#### **Avoid Skin Contact**

**Health & Safety:** Wear chemical goggles as minimum eye protection, use impermeable gloves and cover all exposed skin. Do not allow contaminated clothing to contact skin.

Wear self-contained breathing equipment during spray application. Exclude all unnecessary personnel and the public from immediate site and protect from vapours generated during spray application.

Wash hands before eating, smoking or using washroom. Follow precautions in local safety and environmental regulations. Read, understand and fully comply with recommendations made in Material Safety Data sheets (MSDS) supplied for individual coating components.

**First Aid:** Skin Contact: Wash thoroughly with plenty of soap and water. Eye Contact: Immediately flush with fresh clean water for at least 15 minutes and get specialised medical attention promptly. Inhalation: remove to fresh air and provide oxygen. Ingestion: Immediately call a physician or poison control centre. Do not induce vomiting.

24-hour emergency response number refer to individual product MSDS.

**THESE MATERIALS ARE FOR INDUSTRIAL USE ONLY BY TRAINED QUALIFIED TECHNICIANS ONLY. CONSULT YOUR POLYMER GROUP LTD REPRESENTATIVE BEFORE SPECIFYING.**

#### **ISOCYANATE COMPONENT:**

Hazardous. Not classified a dangerous good. Refer to product material safety data sheet.

#### **RESIN COMPONENT:**

Hazardous. Not classified a dangerous good. Refer to product material safety data sheet.

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PO Box 204 106 Highbrook, Auckland 2161, New Zealand Telephone: 64-9-274 1400 Fax: 64-9-274 1405  
Email: [sales@polymer.co.nz](mailto:sales@polymer.co.nz) [www.polymer.co.nz](http://www.polymer.co.nz)