

# RhinoChem 2170

## Technical Data Sheet

**Part A - Isocyanate**

Date Issued: 07-December-03

**Part B - Resin**

Revised Date: 1<sup>st</sup> Feb 2010

**PRODUCT TYPE:**

Elastomeric polyurethane.

**GENERAL PROPERTIES:**

RhinoChem 2170 is a two-component, 100% solids, rapid curing elastomeric lining displaying excellent chemical and immersion characteristics. RhinoChem 2170 is highly cross linked resulting in a membrane liner that is extremely dense providing superior protection against chemical attack.

- Dense chemical structure imparts high impermeability
- Excellent corrosion resistance
- Excellent chemical resistance

**RECOMMENDED USES:**

- Durable protective lining with excellent chemical resistance for applications such as:
  - Primary and secondary chemical and water containment.
  - Chemical processing equipment, tank linings and wet wells.
  - Water and wastewater applications.
  - Immersion applications in ambient and elevated temperatures.
- Spray-on application creates a monolithic, seamless lining, which conforms to any shape or size.
- Applications requiring fast turnaround times and extended life cycles.
- Stable from -40<sup>o</sup>C to 100<sup>o</sup>C.

**NOT RECOMMENDED FOR:**

- Sustained temperatures below -40<sup>o</sup>C or above 100<sup>o</sup>C. Exhibits short term stability up to 125<sup>o</sup>C.
- Concrete substrates subject to high impact.
- Application to high density polyethylene or thermo plastics.

**CHEMICAL RESISTANCE:**

RhinoChem 2170 has excellent resistance to a variety of commercial and industrial chemicals. Examples of some of the chemicals it can withstand are listed below. For further information, please consult with Rhino Linings technical department. Properties were checked against RhinoChem 2170 polyurethane lining at 3mm thick at 25<sup>o</sup>C in a laboratory environment. Results in the field and at elevated temperatures may vary.

Acetic Acid to 10%	Hydrochloric Acid to 15%	Salts
Ammonia to 5%	Hydrogen Peroxide to 10%	Salt Solutions
Bleach	Nitric Acid to 10%	Sodium Hydroxide to 50%
Caustic Soda Lye to 50%	Oils	Sodium Hypochlorite to 13%
Cleaning Chemicals	Phosphoric Acid to 50%	Sulphuric Acid to 50%
Disinfecting Chemicals	Potash Lye to 20%	Tannic Acid to 50%
Ammonium Nitrate (crystalline solid)		

**PROCESSING CHARACTERISTICS:**

RhinoChem 2170 can be applied using either high or low pressure, plural component spray equipment such as the RhinoPro Hi-Flow or the RhinoPro HP21 spray machines. When using Rhino low-pressure application equipment heating of the chemical is not required however optimum mixing will occur if the chemical is at 25C. When using high-pressure application equipment a recommended starting point for heater settings is 55C on the primary heaters and 60C on the hose heaters. Spray pressure (not static pressure) should be a minimum of 1800psi. Adjust according to ambient and substrate temperatures and the specific application.

Initiation	20-30 secs
Gel Time	50-60 secs
Tack Free time	90 secs
Cure time – 98%	24 hours
Re-Coat time (max without priming)	6 hours
Mix ratio	2:1

**SUBSTRATES:**

Metals, wood, concrete, brick, fibreglass and geotextiles.

**VOLATILE ORGANIC CONTENT:**

Zero. 100% solids. Solvent free.

**TYPICAL PHYSICAL PROPERTIES OF RhinoChem 2170:**

Hardness (Shore D)	70±5	ASTM D-2240
Tensile Strength (psi)*	3500 – 3700	ASTM D-412
Elongation (%)	25 – 30	ASTM D-412
Taber Abrasion Resistance (mg of loss/1000 cycles)		
CS17 Wheel: 1000 grams weight	50 - 55	ASTM D-4060
Tear Resistance (pli)* Die C	180 – 190	ASTM D-624
Impact Resistance(2.5mm thick sample)	No cracking deterioration	Gardner Tester

\* Properties were checked using RhinoChem 2170 polyurethane lining at 3mm thick.

**DRY FILM THICKNESS RANGE (subject to application):**

Varies based on application, typically used at a minimum of 2mm to 6mm.

Waterproof Coating Thickness: 2+ mm.

Chemical Immersion Coating Thickness: Bund Floors 3 to 6+ mm, Walls 3+ mm.

**SHELF LIFE and CONTAINER SIZE:**

Store product in a dry environment away from direct sunlight and moisture. Recommended storage temperature is 25C.

Part A – Isocyanate: nine months, unopened. 75kg and 250kg Drums.

Part B – Resin: nine months, unopened. 62kg and 204kg Drums.

**BASE MATERIAL COLOURS:**

Isocyanate – amber/dark brown colour.

Resin – Off-white

Limited colour range available.

**SAFETY PRECAUTIONS:**

**Health Considerations:** consult Rhino Linings Material Safety Data Sheets.

The uncured components of Rhino Linings RhinoChem 2170 can cause irritation to the eyes, skin, mucous membranes and are harmful if swallowed. When handling, avoid contact with eyes and skin (especially open cuts). In case of contact, immediately wash off with plenty of water for at least fifteen (15) minutes. For eyes, obtain medical attention. Always wash hands before eating. Obtain immediate medical attention in case of ingestion.

RhinoChem 2170 contains isocyanates and may cause allergic skin or respiratory reactions. Do not use if you have chronic breathing problems (asthma) or if you have ever had reactions to isocyanates. When applying RhinoChem 2170, avoid breathing harmful vapours. Fresh air-supplied standard painter's hood or full face respirator must be worn by all personnel entering the area where RhinoChem 2170 is being applied until all vapours have been exhausted. In case of extreme exposure or adverse reaction, remove affected personnel to fresh air immediately and obtain medical help.

**Important: consult the Rhino Linings Material Safety Data Sheets.**

Read and follow warning labels on all components. For professional use only. Follow cautions and handling guidelines in Rhino Linings Technical Manual. The information herein is believed to be reliable, but unknown risks may be present. All warranties of any kind, expressed or implied, including warranties of fitness for a particular purpose, are specifically disclaimed.

**For your Protection:**

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