



# DELTA POLYUREA ST

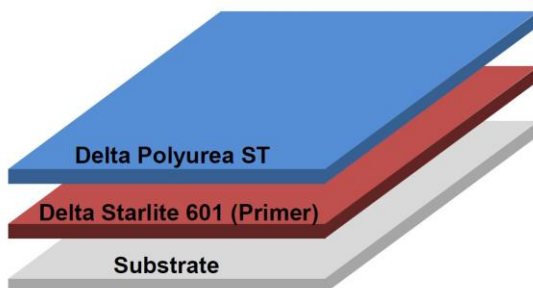
Aromatic Polyurea Elastomer



## DESCRIPTION

A two-component, 100% solids, multi-purpose pure Polyurea designed for general purpose. It has excellent performance in anti-corrosion and waterproofing applications on steel, concrete and other substrates.

## SYSTEM DESIGN



## BENEFITS

- ❖ 100% solids with zero VOC.
- ❖ Excellent elongation properties.
- ❖ Good chemical resistance.
- ❖ Seamless, resilient, flexible, will not crack.

- ❖ Impact, tear and abrasion resistant.
- ❖ Excellent corrosion protection.
- ❖ Low permeability.
- ❖ Fast reactivity and cure time with no catalysts.
- ❖ Applicable in temperatures from -30°C to 70°C.
- ❖ Almost immediate return-to-service time.
- ❖ Can incorporate anti-slip finish.
- ❖ **Suitable for use in contact with potable water**



SS 375: 2001

## USES

- ❖ Areas where a tough, flexible, hardwearing, chemical resistant waterproofing membrane is required.
- ❖ Areas where a durable, high chemical resistant, corrosion protection coating is required.
- ❖ Typical applications include:
  - Marine environments
  - Food processing plants
  - Cold storage facilities
  - Landfill containment
  - Secondary containment
  - Water and wastewater treatment
  - Industrial and manufacturing facilities
  - Airports
  - Chemical plants
  - Livestock facilities
  - Warehouse floors
  - Power plants
  - Tank linings

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## FINISH

Low sheen

## COLOUR

Standard medium grey. Custom colours (blended to match any RAL number) are available upon request.

## SURFACE PREPARATION

Substrates to be coated must be structurally sound, clean and free from any contamination.

Concrete – Surface preparation by captive shot blasting, scarifying or diamond disc grinding.

Steel – Surface preparation by wire brush, hydro or sand blasting to minimum SA 2.5 standard, or as per required.

## APPLICATION

Applied utilising high pressure, heated plural component spray proportioning equipment that is capable of supplying correct pressure and heat for the appropriate hose length on a consistent basis. Applied in a cross directional method. Concrete substrates should be allowed to cure for a minimum of 30 days.

For concrete substrate:

- Primer coat of Delta Starlite 601 @ 0.30kg/m<sup>2</sup>.
- Spray on finishing coat of Delta Polyurea ST @ 1.5lit/m<sup>2</sup> (average 1.5mm thick).



## TECHNICAL AND APPLICATION DATA

Solids by Volume	100%
Volatile Organic Compound	0g/l
Tensile Strength @ 25°C ASTM D-412	15 to 20N/mm <sup>2</sup>
Elongation @ 25°C ASTM D-412	375% to 425%
Hardness (Shore D) ASTM D-2240	40 to 50
Flexibility 3mm mandrel ASTM D-1737	Pass
Tear Strength Die C ASTM D-624	75 to 80kN/m
Fire Rating UBC	Class 2
Flash Point Pensky-Martin	>93°C
Service Temperature Range – Dry	-30°C – 120°C
Abrasion Resistance ASTM D-4060 Taber CS17 1000mg/1000rev	<15mg loss
Test for Use in Contact with Potable Water SS 375: 2001	Pass
Chemical Resistance	See list attached

Specific Gravity	A : 1.12, B : 1.04
Viscosity (cps) @ 25°C	A : 650 to 750 B : 650 to 750
Gel Time (Adjustable)	6 to 20secs
Tack Free Time (125µ)	30 to 45secs

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Post Cure Time	24 Hours
Volume Ratio (A : B)	1 to 1
Block Temperature	60°C to 70°C
Hose Temperature (A and B)	60°C to 70°C
Constant Pressure	136 Bar

Recommended dry film thickness	1.5mm
No. of coats	1
No. of components	2

## Test Report using SS 375: 2001 Standard for Use in Contact with Potable Water:

Materials	Test	MDOD (mg/l)	Requirements of SS 375 : Part 1 : Specification (MDOD, mg/l)
Negative reference		0.21	0.0 ± 0.6
Positive reference		5.60	7.5 ± 2.5
Test product (Single sample)		0.88	< 1.69

Test	Sample	Requirements of SS 375 : Part 1 : Specification (Maximum admissible level)
Colour (Hazen units)	Less than 5	5
Turbidity (FNU)	0.1	0.5

Metal	Sample 1	Sample 2	Requirements of SS 375 : Part 1 : Specification (Maximum allowable concentration)
Aluminium, Al µg/l	< 20	< 20	200
Antimony, Sb µg/l	< 0.5	< 0.5	5
Arsenic, As µg/l	< 1.0	< 1.0	10
Barium, Ba µg/l	< 100	< 100	700
Cadmium, Cd µg/l	< 0.5	< 0.5	3
Chromium, Cr µg/l	< 5.0	< 5.0	50
Iron, Fe µg/l	< 20	< 20	200
Lead, Pb µg/l	< 1.0	< 1.0	10
Manganese, Mn µg/l	< 5.0	< 5.0	50
Mercury, Hg µg/l	< 0.1	< 0.1	1
Nickel, Ni µg/l	< 2.0	< 2.0	20
Selenium, Se µg/l	< 1.0	< 1.0	10
Silver, Ag µg/l	< 1.0	< 1.0	10

## MAINTENANCE

Remove chemical spillage immediately, regular washing or water jetting.

## STORAGE CONDITIONS AND SHELF LIFE

All components of Delta Polyurea ST have a shelf life of 12 months in original unopened packing, stored in dry enclosed place without exposing to direct sunlight and at temperature between 15°C to 35°C, protected from frost.

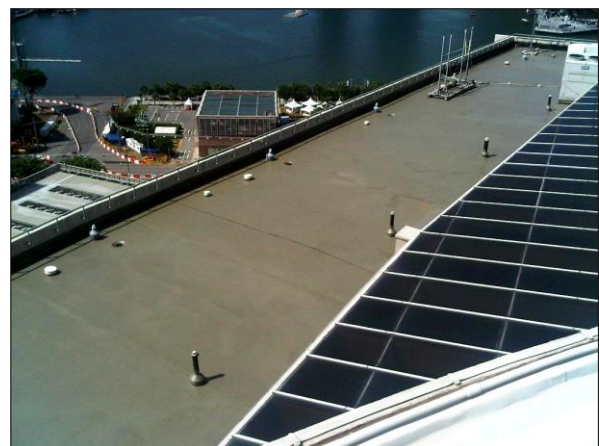
## PACKAGING

380 litre set.

Comprises of: Part A – 190 litres  
Part B – 190 litres

## SAFETY

Product contains isocyanates and curatives. Do not take internally. May irritate eyes and skin. Ensure adequate ventilation and avoid inhaling vapours. Always use with suitable personal protective equipment.



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## Chemical Resistance List

Test Method	ASTM-3908 Modified (100 Day Immersion)
Sample Description	500mm x 500 mm carbon steel plate- SA 2.5 surface profile
Test Description	Samples coated to 1000µ (1.0 mm) DFT cured for 24 hours at 24°C

Results Key	0% - 2% Change	=	R	Recommended No Effect
	2% - 5% Change	=	C	Recommended Slight Effect
	6% - 15% Change	=	RC	Recommended Conditional
	16% + Change	=	F	Failure Not Recommended

S/No	Chemicals	Start Mass (grams)	End Mass (grams)	Percent of Change	Result	Comments
1	1,1,1-Trichlorethane	135	146.2	7.66%	RC	Swelling and blisters, visible damage
2	Acetic Acid	135	136	0.74%	R	No effect
3	Acetone	135	141.9	4.86%	R	Some swelling, no visible damage
4	Ammonium Hydroxide (20%)	135	135.6	0.44%	R	No effect
5	Antifreeze/Water (50:50)	135	141.1	4.32%	C	Some swelling, no visible damage
6	Benzene	135	146.3	7.72%	RC	Some swelling, no visible damage
7	Brake Fluid (Dot 3)	135	141.6	4.66%	C	Little swelling, no visible damage
8	Brine-Salt Water (180g/L) Seawater	135	135.9	0.66%	R	No effect
9	Brine-Salt Water (310g/L) Sat. Sol	135	135.8	0.59%	R	No effect
10	Citric Acid (50%)	135	135.2	0.88%	R	No effect
11	Clorox (10% in water)	135	135.3	0.22%	R	Discoloration
12	Copper Chromate Arsenic (4%)	135	135.4	0.30%	R	No effect
13	Diesel Fuel (Kerr-McGee)	135	138.2	2.32%	C	Discoloration
14	Hydraulic Fluid	135	135.2	0.15%	R	No effect
15	Hydrochloric Acid (10%)	135	134.1	-0.67%	R	No effect
16	Hydrofluoric Acid (10%)	135	F	Failure	F	Cracking, Bubbles, Disintegration
17	Isopropyl Alcohol	135	136.6	1.17%	R	No effect
18	Lactic Acid (50%)	135	135.3	0.22%	R	No effect
19	Liquid Nitrogen Fertilizer (28-0-0)	135	135.6	0.44%	R	No effect
20	Liquid Urea Fertilizer	135	137	1.46%	R	No effect
21	Methanol	135	137	1.46%	R	No effect
22	Methyl Ethyl Ketone (MEK)	135	144.2	6.38%	RC	Little swelling, no visible damage
23	Methyl Tertiary Butyl Ether (MTBE)	135	144.2	13.96%	RC	Some swelling, no visible damage
24	Methylene Chloride	135	F	Failure	F	Swelling and blisters, visible damage
25	Methyl-N-Amyl Ketone (M.A.K.)	135	142.5	5.26%	RC	Some swelling, no visible damage
26	Mineral Spirits	135	136.8	1.32%	R	No effect
27	Motor Oil (Pennzoil 10 w 30)	135	135.9	0.66%	R	Discoloration
28	Muriatic Acid (17.1%)	135	136.2	0.88%	R	No effect
29	Muriatic Acid (31.45%)	135	F	Failure	F	48 Hours Contact OK

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30	NaCl / Water (10%)	135	135.2	0.15%	R	No effect
31	Nitric Acid (20%)	135	F	Failure	F	Swelling and blisters, visible damage
32	Nitric Acid (50%)	135	F	Failure	F	Swelling and blisters, visible damage
33	Phosphoric Acid (10%)	135	135.8	0.59%	R	No effect
34	Phosphoric Acid (50%)	135	F	Failure	F	Swelling and blisters, visible damage
35	PM Acetate	135	136.2	0.88%	R	No effect
36	Potassium Hydroxide (10%)	135	135.7	0.52%	R	No effect
37	Potassium Hydroxide (20%)	135	136.9	1.39%	R	Discolouration
38	Propylene Carbonate (Jeffsol PC)	135	137.7	1.96%	R	No effect
39	Skydrol	135	144.5	6.57%	RC	Little swelling, no visible damage
40	Sodium Bicarbonate-Solid	135	135.1	0.07%	R	No effect
41	Sodium Hydroxide (25%)	135	135.4	0.30%	R	No effect
42	Sodium Hydroxide (50%)	135	135.5	0.37%	R	Discolouration
43	Sodium Hypochlorite (Sat. Solution)	135	136.9	1.39%	R	Discolouration
44	Sour Brine (120,000ppm H <sub>2</sub> S)	135	135.8	0.59%	R	No effect
45	Sour Condensate	135	F	Failure	F	Short term exposure acceptable
46	Sour Crude (120,000ppm H <sub>2</sub> S)	135	137.2	1.60%	R	No effect
47	Stearic Acid (50%)	135	138.5	2.53%	C	Some swelling, no visible damage
48	Sugar/Water (10%)	135	135.2	0.15%	R	No effect
49	Sulphuric Acid (22%)	135	133.7	-0.97%	R	No effect
50	Sulphuric Acid (50%)	135	F	Failure	F	Cracking, Blisters, Discolouration
51	Sulphuric Acid (98%)	135	F	Failure	F	Cracking, Blisters, Discolouration
52	Toluene	135	136	0.74%	R	Some swelling, no visible damage
53	Trisodium Phosphate (TSP)	135	136	0.74%	R	No effect
54	Unleaded Gasoline (5% Methanol)	135	135.9	0.66%	R	No effect
55	Unleaded Gasoline (5% MTBE)	135	137.7	1.96%	R	No effect
56	Unleaded Gasoline (Texaco)	135	136.1	0.81%	R	No effect
57	Vingear/Water (5:95)	135	135.9	0.66%	R	No effect
58	Wastewater - Storm. Water. Pond-SOC	135	135.3	0.22%	R	No effect
59	Wastewater - Anaerobic Digester - AC	135	136	0.74%	R	No effect
60	Wastewater - API Separators MO	135	136.3	0.95%	C	Little swelling, no visible damage
61	Wastewater - Clarifier - FSO	135	135.1	0.07%	R	No effect
62	Wastewater - Clariflocculator FSO	135	135.1	0.07%	R	No effect
63	Wastewater - Equalization Basin - AC	135	135.1	0.07%	R	No effect
64	Wastewater - Rapid Charcoal Filters - FSO	135	135.2	0.15%	R	No effect
65	Water (Tap) (25°C)	135	135.1	0.07%	R	No effect
66	Water (Tap) (82°C)	135	135.3	0.22%	R	No effect
67	Xylene	135	148.3	8.97%	RC	Some swelling, no visible damage

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