



# DELTA POLYUREA XT PLUS

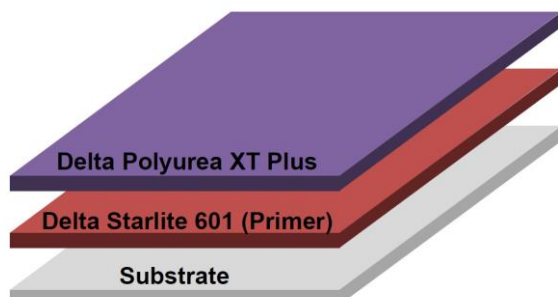
Rapid Curing Modified Polyurea



## DESCRIPTION

Delta Polyurea XT Plus is a fast set, rapid curing modified polyurea. It is designed for acid and base environments and is 100% solid, flexible, aromatic, two components spray polyurethane polyurea that can be applied to suitably prepared concrete and metal surfaces. Its extremely fast gel time makes it suitable for applications down to -30°C. It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to moisture and temperature allowing application in most temperatures. The product is commonly specified in conjunction with other Delta Polyurea products in monolithic compositions.

## SYSTEM DESIGN



## BENEFITS

- ❖ 100% solids with zero VOC.
- ❖ Fast reactivity and cure time resulting in almost immediate return-to-service time.
- ❖ Can be applied in temperatures from -30°C and upwards.
- ❖ Perform in constant temperatures from -30°C to 120°C
- ❖ Retains physical properties at -30°C to 120°C.
- ❖ Moderate elongation properties.
- ❖ Seamless, resilient, flexible and tough
- ❖ Excellent acid and base resistance (consult NCSI)
- ❖ Good corrosion protection
- ❖ Impact, tear and abrasion resistant
- ❖ Low permeability waterproofing membrane

## USES

- ❖ On concrete, steel or other substrates where exposures to high acidic or alkaline chemical concentrations are present.
- ❖ Areas where anaerobic and aerobic waste by products combined with elevated temperatures are expected.
- ❖ Typical applications include:
  - Fertiliser Plants
  - Refineries
  - Chemical Processing Plants
  - Mining
  - Oil & Gas
  - Petroleum Industries
  - Paper and Pulp Mills
  - Pharmaceuticals

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- Primary and Secondary Containment
- Water, Waste Water and Industrial Effluent Treatment Plants
- Power and Desalination Plants

## 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 – preparation by diamond disc grinding.

Steel – preparation by wire brush, hydro or sand blasting 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.

For concrete substrate:

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

## TECHNICAL AND APPLICATION DATA

Solids by Volume	100%
Volatile Organic Compound	0g/l
Theoretical coverage @ 1mm	1 m <sup>2</sup> /l
Specific Gravity (kg/l)	A – 1.11 B – 0.96
Viscosity at 70°C in cps (ASTM D 412)	A – 200 B - 500
Shelf life @ 25°C	12 to 15 months
Tensile strength (ASTM D412 C)	9 to 10 MPa
Elongation (ASTM D 412)	40 to 50%
Hardness (ASTM D 2240)	45 to 50 Shore D
Flexibility (2mm mandrel ASTM 1737)	Pass
Water Vapour Permeability (ASTM E 96)	0.00042 perm-inch
Water absorption -24 hours (ASTM D 471)	<0.5%
Crack bridging @ -25°C (ASTM C 836), 25 cycles	Pass
Tear strength (Die C ASTM 412)	40 to 45 KN/m
Impact resistance	> 20 J
Fire rating	Class 2
Flash point Pensky Martin	> 93°C
Service temperature (Dry)	-30°C to 120°C
Abrasion resistance (ASTM D 4060)	15mg loss Taber CS 17 Wheel 1kg/1000 rev
Chemical resistance	See list attached

## STORAGE CONDITIONS AND SHELF LIFE

All components of Delta Polyurea XT Plus 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. Keep away from extreme heat, freezing and moisture.

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## 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.

### Chemical Resistance List

Test Method	ASTM-3908 Modified (One Year 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	137.1	1.53%	RC	Swelling and blisters, visible damage
2	Acetic Acid	135	135.1	0.07%	R	No effect
3	Acetone	135	137.5	1.82%	R	No effect
4	Ammonium Hydroxide (20%)	135	135	0.00%	R	No effect
5	Antifreeze/Water (50:50)	135	137.1	1.53%	R	No effect
6	Benzene	135	139.2	3.02%	C	Some swelling, no visible damage
7	Brake Fluid (Dot 3)	135	141.1	4.32%	C	Some swelling, no visible damage
8	Brine-Salt Water (180g/L) Seawater	135	135.2	0.15%	R	No effect
9	Brine-Salt Water (310g/L) Sat. Sol	135	135.3	0.22%	R	No effect
10	Citric Acid (50%)	135	135.6	0.44%	R	No effect
11	Clorox (10% in water)	135	135	0.00%	R	Slight discoloration, no visible damage
12	Copper Chromate Arsenic (4%)	135	135.1	0.07%	R	No effect
13	Diesel Fuel (Kerr-McGee)	135	135.9	0.66%	R	No effect
14	Hydraulic Fluid	135	135	0.00%	R	No effect
15	Hydrochloric Acid (10%)	135	134.9	-0.07%	R	No effect
16	Hydrofluoric Acid (10%)	135	F	Failure	F	Cracking, Bubbles, Disintegration
17	Isopropyl Alcohol	135	135.5	0.37%	R	No effect

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18	Lactic Acid (50%)	135	135.1	0.07%	R	No effect
19	Liquid Nitrogen Fertilizer (28-0-0)	135	135.5	0.37%	R	No effect
20	Liquid Urea Fertilizer	135	136	0.74%	R	No effect
21	Methanol	135	135.6	0.44%	R	No effect
22	Methyl Ethyl Ketone (MEK)	135	142.8	5.46%	RC	Little swelling, no visible damage
23	Methyl Tertiary Butyl Ether (MTBE)	135	140.3	3.78%	C	Slight 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	139.9	3.50%	C	Some swelling, no visible damage
26	Mineral Spirits	135	136.7	1.24%	R	No effect
27	Motor Oil (Pennzoil 10 w 30)	135	135.7	0.52%	R	Slight discoloration, no visible damage
28	Muriatic Acid (17.1%)	135	136.4	1.03%	R	No effect
29	Muriatic Acid (31.45%)	135	F	Failure	F	48 Hours Contact OK
30	NaCl / Water (10%)	135	135	0.00%	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	135.4	0.30%	R	No effect
34	Phosphoric Acid (50%)	135	F	Failure	F	Swelling and blisters, visible damage
35	PM Acetate	135	135.5	0.37%	R	No effect
36	Potassium Hydroxide (10%)	135	135.5	0.37%	R	No effect
37	Potassium Hydroxide (20%)	135	137	1.46%	R	Slight discoloration, no visible damage
38	Propylene Carbonate (Jeffsol PC)	135	136.2	0.88%	R	No effect
39	Skydrol	135	142.1	5.00%	C	Little swelling, no visible damage
40	Sodium Bicarbonate-Solid	135	135	0.00%	R	No effect
41	Sodium Hydroxide (25%)	135	135.1	0.07%	R	No effect
42	Sodium Hydroxide (50%)	135	135.1	0.07%	R	Slight discoloration, no visible damage
43	Sodium Hypochlorite (Sat. Solution)	135	135.9	0.66%	R	Slight discoloration, no visible damage
44	Sour Brine (120,000ppm H <sub>2</sub> S)	135	135.9	0.66%	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	136.4	1.03%	R	No effect
47	Stearic Acid (50%)	135	137.1	1.53%	C	Slight discoloration, no visible damage
48	Sugar/Water (10%)	135	135.1	0.07%	R	No effect
49	Sulphuric Acid (22%)	135	134.9	-0.07%	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	135.2	0.15%	R	No effect

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53	Trisodium Phosphate (TSP)	135	135.6	0.44%	R	No effect
54	Unleaded Gasoline (5% Methanol)	135	135.4	0.30%	R	No effect
55	Unleaded Gasoline (5% MTBE)	135	136.4	1.03%	R	No effect
56	Unleaded Gasoline (Texaco)	135	136	0.74%	R	No effect
57	Vingear/Water (5.95)	135	135.2	0.15%	R	No effect
58	Wastewater - Storm. Water. Pond- SOC	135	135.4	0.30%	R	No effect
59	Wastewater - Anaerobic Digester - AC	135	135.5	0.37%	R	No effect
60	Wastewater - API Separators MO	135	136.5	1.10%	R	No effect
61	Wastewater - Clarifier - FSO	135	135	0.00%	R	No effect
62	Wastewater - Clariflocculator FSO	135	135.2	0.15%	R	No effect
63	Wastewater - Equalization Basin - AC	135	135	0.00%	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	135.2	0.15%	R	No effect
67	Xylene	135	141.6	4.66%	C	Slight swelling, no visible damage