

# DELTAshield HP 500 PW



HIGH PERFORMANCE, SPRAY APPLIED, SEAMLESS PROTECTIVE LINING FOR **POTABLE WATER APPLICATIONS**

## DESCRIPTION

**DELTAshield HP 500 PW** is an instant curing, spray applied, seamless, and flexible protective membrane that exhibits excellent impact and tear strength. It will not crack or peel even under the harshest conditions and requires no maintenance to maintain its integrity and physical features.

**DELTAshield HP 500 PW** is specially formulated and is designed for use in potable water applications up to 85°C.

## TYPICAL USES

- ✓ Potable water reservoirs, storage tanks, canals and via-ducts.
- ✓ Rainwater storage tanks.
- ✓ Fish breeding tanks.
- ✓ De-salination plants.
- ✓ Water bottling and cleaning plants

## FEATURES

- ✓ Potable Water Approved according to BS 6920 and WRAS Certified.
- ✓ Spray applied Seamless application to any thickness in one application.
- ✓ Fast reactivity and tack free times - from 10 seconds.
- ✓ Fast return to service time – within 48 hours.
- ✓ Long life-cycle - significant whole of life cycle savings
- ✓ Excellent adhesion on concrete, steel, aluminum, fiberglass, wood, foam etc.
- ✓ No sensitivity to humidity or moisture during the spraying and curing processes.
- ✓ High impact and abrasion resistance,
- ✓ Maintains flexibility and does not become brittle over a wide temperature range.
- ✓ Very good tensile and structural strength - High elongation at break.
- ✓ 100 % solids, VOC-free, no solvents.
- ✓ Does not contain catalysts.
- ✓ UV, chlorine and saltwater resistant.
- ✓ Suitable for exposed applications under water
- ✓ Can be applied across multiple substrates in the same application process
- ✓ Remains flexible under a wide range of climatic conditions



### PRODUCT INFORMATION



PROCESSING PROPERTIES	DATA
Mixing ratio of Comp. A to Comp. B	1 : 1 by volume
Material consumption [kg/m <sup>2</sup> /1mm]	Approx. 1 - 1.2
Dry film thickness range [mm] For project specific DFT recommendations consult with manufacturer.	Steel Minimum: 1      Maximum: indefinite Concrete Minimum: 2      Maximum: indefinite
Tack Free-Time at 20°C [sec.]	10 - 20
Over coat cycle [h]	0 – 12 (without any further pre-treatment)
Curing/loading after	Walkable: 5 mins    Mechanical: 1 hr    Chemical: 12 hrs
Temperature range for application (ambient) [°C]	-10 - +50
Temperature range for application (substrate) [°C]	-10 - +50
Material Temperature (Preconditioning) [°C]	30 - 40
Material Temperature (Spraying) [°C]	65 - 75
Maximal relative air humidity for application [%]	98
Pay attention to the dew point limit	Substrate to be 3C greater than Dew point.

PHYSICAL PROPERTIES	DATA
Chemical Base	-      100% Pure Polyurea technology
VOC-content	DIN EN ISO 11890-1 / ASTM D-1259      0%
Solids content	DIN EN 827 / ASTM D-2697      100%
Viscosity [mPa*s] @ 25° C	DIN EN ISO 2884-2 / ASTM D-4878      Comp. A: 500 – 700      Comp B: 350 – 700
Density [g/cm <sup>3</sup> ] @ 20° C	DIN EN ISO 2811-2 / ASTM D-1217      Comp. A: 1,11 ± 0,02      Comp. B: 0,98 ± 0,02
Density [g/cm <sup>3</sup> ]	EN ISO 1183 / ASTM D-792      1,02 ± 0,02
Tensile strength [MPa]	ISO 37-2005 / ASTM D-638      ≥ 20
Modul [MPa]	IISO 37-2005 / ASTM D-638      100% Elongation: ≥ 10      300% Elongation: ≥ 15



PHYSICAL PROPERTIES	DATA	
Elongation at break [%]	ISO 37-2005 / ASTM D-638	≥ 410
Hardness [Shore D]	ISO 868-2003 / ASTM D-2240	45 ± 5
Rebound resilience [%]	ISO 4662 / ASTM	≥ 39
Tear growth resistance [N/mm]	ISO 34-1 method A	≥ 40
Volume abrasion [mm <sup>3</sup> ]	DIN ISO 4649	≤ 185
Taber Abrasion [mg]	ASTM D-4060	< 15 (Wheel CS17 / 1.000g / 1000 Cycles) < 135 (Wheel H18 / 1.000g / 1000 Cycles)
Peel off strength [N/mm]	ISO 813 / ASTM	Concrete: ≥ 4    Steel: ≥ 8
Pull off strength [MPa]	DIN EN ISO 4624 / ASTM D-4541	Concrete: ≥ 1.5    Steel: ≥ 6
Min. Process temp. [°C]	ASTM D-2485	Dry: -40
Max. Process temp. [°C]	ASTM D-2485	Wet: 90    Dry: 120    Peak temperature dry: 160
Potable water approval	BS 6920	Passed at 85°C and WRAS Certified
Storage conditions [°C]	DIN EN 12701	10 – 30 (in closed original drums, stored at dry and well-ventilated place; beware of freezing)
Shelf life	-	Approximately 12 months
Antibacterial Activity	BS ISO 22196	2.2 : Result "good" (99 - 99.9%) – (Bacteria: S.aureus) 2.4 : Result "good" (99 – 99.9%) – (Bacteria: E.coli)

\* **DELTAshield HP 500 PW** is an aromatic based system and can display colour shift under UV light. This colour shift will not negatively affect the products physical performance.

## PACKAGING

**DELTAshield HP 500 PW** is supplied in 40 or 425 kg sets.

## APPLICATION NOTES



- **DeltaShield HP 500 PW** can only be applied using high pressure heated plural component spray equipment by trained and approved applicators.
- In ambient temperatures below 15°C chemical drums should be pre-heated using band heaters to 30–40°C.
- The B-side component should be thoroughly power stirred prior to the commencement of spraying and periodically during the spraying process to ensure there is no settling out of the B-side chemical components.
- The Pigment is always mixed into the B-side using a power stirrer.
- Both the A-side and B-side drums should be fitted with desiccant dryers.
- Compressed air supply should be supplied via an air dryer.
- Primary heaters should be set at between 65-75°C. Adjustments can be made on-site based on environmental conditions, mixing module size and application circumstances.
- Hose heaters should be set at 70C. Adjustments can be made on-site based on environmental conditions, mixing module size and application circumstances.

### Special note for the application of DELTAShield HP 500 PW in potable water tanks, reservoirs and similar constructions:

- Following the application of **DELTAShield HP 500 PW** the lining should be left for a minimum of 48 hours after which a thorough high-pressure water wash down should be undertaken. Remove the wash water prior to filling with Potable water.

## SAFETY AND HANDLING

- All applicators of **DeltaShield HP 500 PW** should be trained and approved by the manufacturer.
- Spray applicators should wear appropriate PPE including approved breathing equipment, eye wear, Nylex or similar light weight spray suit and appropriate covered footwear.
- Avoid breathing in vapours during spraying or when handling chemicals.
- Avoid eye and skin contact.
- Store chemical drums in a cool dry environment. Avoid storing chemicals for long periods in direct sunlight.
- Do not store chemicals next to food stuffs.
- Ensure chemical drums are kept tightly sealed and avoid ingress of air and moisture.

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy himself, by his own investigations and testing, the suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. Due to the large number of variables that can affect the product and the application process that are out of the control of DELTA Coatings International LLC no warranty of any kind, express or implied is given. The liability of DELTA Coatings International LLC for any claims is limited to the purchase value of the material.

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