

APPLICATION NOTES

- *DELTA Shield HP 400 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.*

SAFETY AND HANDLING

- *All applicators of DELTA Shield HP 400 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.*

PACKAGING

DELTA Shield HP 400 is supplied in 40 or 425 kg sets.

Primer Sealer Epoxy Floor Solvent Free Food Grade(G-5900)

Product description

This product has a high resistant against mechanical , stress , weather , water , waterproof, and chemicals , High Adhesion used as a primer and top coat on concrete surfaces.

Base

Epoxy solvent free resin

Usage

It is a best primer on concrete surfaces and because of its compatibility to FDA(food and drug administration) used on walls and floors in hospitals ,surgery rooms , food factories , pharmaceutical factories.

| | |
|-------|-------|
| Color | clear |
|-------|-------|

Instructions for use @ 23 ± 2 °C

| | |
|----------------------|----------------------------------------------|
| Dry to touch | 6 hr. |
| Dry hard | 12 hr. |
| Dry to over coat | 12 hr. |
| Curing time | 7 days |
| Theoretical coverage | 4 -5 m ² /kg (1 time /40 – 50 µm) |
| Dry film thickness | (50 - 125)µm. depending on number of layers |
| Wet film thickness | (60 - 150)µm. |
| Thinner | MPI thinner type |

Specification @ 23 ± 2 °C

| | |
|------------------------------------|------------------------------------------------------|
| Pot life | 40 min. (ISO 9514/2019) |
| Specific gravity | 1.10 ±0.1 (ISO 2811-1/2016) |
| Gloss level | glossy (ISO 2813/2014) |
| Acids and alkalis resistance | PASS (ISO 2812-1/2017) |
| Water resistance | PASS (ISO 2812-2 /2018) |
| Salt resistance | PASS (ISO 7253 /1984) |
| Oil and grease resistance | PASS (ISO 2812-1/2017) |
| Heat resistance | ≤ 90°C direct , 120 – 150°C indirect (ISO 3248/2016) |
| Pull off strength(Adhesion tester) | Pass (ASTM D 4541/2022) |

Mixing ratio (By weight)

| | | |
|--------------|--------|-----------------------|
| Epoxy primer | G-5900 | 20.0 kg container can |
| Hardener | H-5900 | 5.0 kg container can |

Mix well (2 – 3) minutes and apply immediately .

Application

Brushing. rolling, spraying, airless spraying .

Surface preparation

Maintenance: Remove oil and grease ect. thoroughly with suitable detergent.
Remove salts and other contaminants by high pressure fresh water cleaning.

Preceding & Follow-up Coating

Epoxy system :

- 1- Epoxy primer (G-5900)
- 2- top coat finish (D-5544 SFFA) or (D-5900 A)

Application conditions

Use only where application and curing can proceed at temperature above 5°C, and below 45°C in the shadow. The temperature of the surface must be also be above these limits .The Relative Humidity must not exceed 80% .

Stirring

Stir the base thoroughly in order to redisperse any possible settling after storage. After mixing it is equally important to maintain stirring to keep the wet paint as a homogeneous mixture.

Packaging

| | | |
|---------------------|--------|------------|
| weight of container | | (kilogram) |
| Epoxy primer | G-5900 | 20 |
| Hardener | H-5900 | 5 |

Storage

May be stored for 24 months when kept in originally closed containers. The product must be kept in a cool and well-ventilated place, protected from heat and direct sunlight

Caution

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mixture and apply the coating correctly and according to MPI CO. Technical documentation. Applicators and operators shall use appropriate personal protection equipment when using this product. This guideline is given based on the current knowledge of the product. Any suggested deviation to suit the site condition shall be forwarded to the responsible

MPI CO. Representative for approval before commencing the work

Handling/safety precautions

- Keep out of reach of children
- Wear protective gloves, wear face protection ,wear protective clothing.
- If inhaled remove person to fresh air and keep comfortable for breathing, immediately call a poison center .
- May cause allergic skin reaction.
- Avoid contact with eyes, skin or clothing.
- Avoid breathing vapor, mist or spray.
- Use with adequate ventilation.
- Promptly remove wet contaminated clothing and wash before reuse.
- Wash after handling.
- Store in a cool, dry, area in closed containers.

ENVIRONMENTALLY FRIENDLY PAINTS

MPI DELTA Shield HP 400

Product description

DELTA Shield HP 400 is an instant curing, spray applied, seamless, and flexible protective membrane. DELTA Shield HP 400 sits at the top of DELTA's high performance coatings range and is suitable for use in a wide range of demanding applications requiring abrasion, impact and chemical resistance.

DELTA Shield HP 400 is an excellent primary and secondary containment membrane providing seamless, instant curing, flexible containment solutions that require a higher performance level than standard waterproofing membranes. DELTA Shield HP 400 is an ideal lining for abrasive liquid containment, industrial, chemical and impact applications.

Usage

- *Protection of concrete substrates in water and wastewater treatment plants.*
- *Steel and concrete tank linings subject to corrosion, abrasion and chemical attack.*
 - *Waterproofing of areas subject to impact, abrasion, traffic loads, UV exposure.*
- *Protection of substrates against abrasion and impact in materials handling applications. Mining, concrete manufacture, concrete batching plants, sand and gravel quarries.*
- *Sacrificial wear plates and linings in the mining and transport industries.*
- *Secondary containment linings in the power, petro chemical, oil and gas industries.*
- *Applications where substrates are being subjected to abrasion, impact and corrosion in industrial applications. Base*

FEATURES

- *Can be applied even under extreme climatic conditions. Hot, cold and humid conditions*
- *Very good abrasion, impact and chemical resistance for most applications*
- *Resistant to most standard chemicals, acids, oils, and bleaches**
- *Very good elongation at break*
- *Very good tensile strength*
- *Suitable for exposed applications*
- *Seamless application and seamless finish. No welded joints or glued seams*
- *Excellent adhesion to concrete, steel, aluminum, plastics, fibers, wood, foam etc.*
- *Can be applied across multiple substrates in the same application process*
- *Remains flexible under a wide range of climatic conditions*
- *Rapid application to any thickness and very fast cure results in faster turnaround times*
- *Can build to any thickness in one application. Does NOT require multiple coats*
- *100 % solids, VOC-free, contains zero solvents*

| PHYSICAL PROPERTIES | | DATA | |
|--------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|----------------------|
| 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: 600 - 1.000 | Comp B: 500 – 900 |
| Density [g/cm³] @ 20°C | DIN EN ISO 2811-1 / ASTM D-1217 | Comp. A: 1,09 ± 1,13 | Comp. B: 1,00 ± 1,04 |
| Density [g/cm³] | EN ISO 1183 / ASTM D-792 | 1,01 ± 1,05 | |
| Tensile strength [MPa] | ISO 37-2005 / ASTM D-638 | ≥ 25 | |
| Module [MPa] | IISO 37-2005 / ASTM D-638 | 100% Elongation: ≥ 10 | 300% Elongation: 20 |
| Elongation at break [%] | ISO 37-2005 / ASTM D-638 | ≥ 350 - 400 | |
| Hardness [Shore D] | ISO 868-2003 / ASTM D-2240 | 45±5 | |
| | | | |
| | | | |
| Impact Resistance [J/mm] | DIN EN 10290-2004 Class: A | 23° C: 9,0 -5° C: 7,0 | |
| Surface resistance [Ohm] | DIN IEC 60167 | ≥ 1,0*10 ¹¹ | |
| Volume resistance [Ohm] | DIN IEC 60093 | ≥ 1,0*10 ¹¹ | |
| 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 18 months unopened and stored correctly | |

| PROCESSING PROPERTIES | DATA |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Mixing ratio of Comp. A to Comp. B | 1 : 1 by volume |
| Dry film thickness range [mm] For project specific DFT recommendations consult with manufacturer | Steel Minimum: 1 Maximum: indefinite Concrete Minimum: 2 Maximum: indefinite |
| Recommended thickness [mm] | Minimum: 1 Maximum: unlimited |
| Tack Free-Time at 20°C [sec.] | 10 - 20 |
| Over coat cycle [h] | 0 – 12 (without any pre-treatment) |
| Curing/loading after [h] | Walk able: 1 Mechanical: 2 Chemical: 12 - 24 |
| Temperature range for application (ambient) [°C] | -10 - +50° C |
| Temperature range for application (substrate) [°C] | -10 - +50° C |
| Material Temperature (Preconditioning) [°C] | 25 -30°C |
| Material Temperature (Spraying) [°C] | 65 -75°C |
| Maximal relative air humidity for application [%] | 98% |
| Pay attention to the dew point limit | Substrate should be 3°C greater than DP (dew point) |