Technical Datasheet

Litamastic Universal 10

Description

This is a two-component polyamine cured pure epoxy coating. It is a fast drying, abrasion resistant, high solids, and high build product. It provides excellent corrosion protection as part of a complete coating system. Can be used as primer, mid coat, finish coat or as single coat system in atmospheric and immersed environments. Suitable for properly prepared carbon steel, galvanized steel, shop primed steel, stainless steel, aluminium substrates. Suitable as maintenance coating on a wide range of aged coating surfaces. It can be applied at subzero surface temperatures.

Typical use

Recommended for offshore environments, including splash zones, refineries, power plants, bridges, buildings, mining equipment and general structural steel. Approved for PSPC cross over testing with a wide range of shop primers.

Approvals and certificates

Certified in accordance with IMO Res.215(82) – PSPC Water Ballast Tanks Certified in accordance with IMO Res.288(87) – PSPC Crude Oil Tanks Pre-qualified in accordance with NORSOK M-501, Edition 6, System 1 Pre-qualified in accordance with NORSOK M-501, Edition 6, System 7. When used as part of an approved scheme, this material has the following certification: - Low Flame Spread in accordance with EU Directive for Marine Equipment. Approved in accordance with parts 5 and 2 of Annex 1 of IMO 2010 FTP Code, or Parts 5 and 2 of Annex 1 of IMO FTPC when in compliance with IMO 2010 FTP Code Ch. 8

Consult your Litum representative for details.

Additional certificates and approvals may be available on request.

Colors

Grey, red, aluminium, aluminium red toned

Product data

Solids by volume	72±2%
Gloss level (GU 60°) (ISO 2813)	Matt (0-35)
Flash point (ISO 3679 Method 1)	30°C
Density	1.4±0.05 kg/l
Volatile organic compounds (VOC)	239 g/l

The provided data is typical for factory-produced products, subject to slight variation depending on color. All data is valid for mixed paint.
Gloss description is subject to Litum definition.

Film thickness per coat

Typical recommended specification range

Dry film thickness	70-300 µm
Wet film thickness	105-415 µm
Theoretical spreading range	10.3-2.4 m²/l

Surface preparation

To secure lasting adhesion to the subsequent product all surfaces shall be clean, dry and free from any contamination.

Surface preparation table

Carbon steel

Minimum	St 2 (ISO 8501-1)
Recommended	Sa 2½ (ISO 8501-1)

Stainless steel

Minimum	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.
Recommended	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media that is suitable to achieve a sharp and angular surface profile.

Shop primed steel

Minimum	Dry, clean and intact shop primer.
Recommended	Sweep blasted or alternatively blasted to Sa 2 (ISO 8501-1) of at least 70 % of the surface.

Aluminium

Minimum	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.
Recommended	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media that is suitable to achieve a sharp and angular surface profile.

Galvanized steel

Minimum	The surface shall be clean, dry and appear with a rough and dull profile.
Recommended	Sweep blast-cleaning using nonmetallic abrasive leaving a clean, rough and even pattern.

Coated surfaces

Minimum	Clean, dry and undamaged compatible coating
Recommended	P Sa 2½ (ISO 8501-2).

Application

Application methods

Spray:
Use airless spray.

Brush:
Recommended for stripe coating and small areas. Please be careful to achieve the specified dry film thickness.

Roller:
May be used. Care must be taken to achieve the specified dry film thickness. However, when using roller application care must be taken to apply sufficient material in order to achieve the specified dry film thickness.

Mixing ratio

3:1 (by volume)

Thinner

Litum Thinner № 17

Induction and pot life

Induction time	10 minutes (23°C)
Pot life	2 hours (23°C)

Airless application

Nozzle tips range (inch/1000):	17-31
Pressure nozzle outlet (minimum):	150 bar/2100 psi

Drying

Surface temperature	-10°C	-5°C	0°C	5°C	10°C	23°C	40°C
Touch dry	24h	15h	11h	7h	5h	2h	1h
Handle (hard) dry	73h	35h	24h	14h	10h	5h	2h
Overcoat minimum	36h	25h	16h	10h	7h	4h	2h
Overcoat maximum				Extended			
Service dry			21d	14d	10d	7d	3d

Curing/drying time is increasing when coating applied at relative humidity (RH) below 85%, and at average of the DFT range for the product.

Touch dry: the state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness.

Handle (hard) dry: minimum time before the coating can tolerate normal pressing without permanent marks or other physical damage.

Overcoat minimum: the recommended shortest time before the next coat application.

Overcoat maximum: maximum time before thorough surface preparation is required.

Service dry: minimum time before the coating can be constantly exposed to the intended environment.

High temperature resistance

Dry, atmospheric 120°C (continuous)

Dry, atmospheric 140°C (peak)

Immersed, sea water 60°C (continues)

Immersed, sea water 70°C (peak)

Immersed, crude oil 80°C (continues)

Immersed, crude oil 90°C (peak)

Duration of superior temperature limit is maximum 1 hour. The temperatures listed relate to retention of protective properties. Aesthetic properties may suffer at these temperatures.

Note that the coating will be resistant to various immersion temperatures depending on the specific chemical and whether immersion is constant or intermittent. Heat resistance is influenced by the total coating system. If used as part of a system, ensure all coatings in the system have similar heat resistance.

Compatibility

Depending on the actual exposure of the coating system, various primers and topcoats can be used in combination with this product. Some examples are shown below. Contact Litum for specific system recommendation.

Previous coat: inorganic zinc silicate shop primer, epoxy, epoxy mastic, zinc epoxy, zinc silicate

Next coat: acrylic, alkyd, epoxy, polyurethane, polysiloxane, epoxy mastic, vinyl epoxy

Packing size

	Volume (L)	Container (L)
Litamastic Universal 10 comp. A	15	20
Litamastic Universal comp. B	5	5

The volume stated is for factory made colors.

Storage and shelf life at 23°C

Storage conditions are to keep the containers in a dry, cool, well-ventilated area and away from source of heat and ignition. Containers must be kept tightly closed. Handle with care.

Litamastic Universal 10 comp. A	48 months
Litamastic Universal comp. B	48 months

The above is minimum shelf life, thereafter the paint quality is subject to re-inspection.

Qualification, health and safety

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Litum's 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 conditions shall be forwarded to the responsible Litum representative for approval before commencing the work.
Please observe the precautionary notices displayed on the container. Use under well-ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should be immediately removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

Color variation

When applicable, products primarily meant for use as primers may have slight color variations from batch to batch. Such products and epoxy-based products used as a finish coat may chalk when exposed to sunlight and weathering. Color and gloss retention on topcoats/finish coats may vary depending on type of color, exposure environment such as temperature, UV intensity etc., application quality and generic type of paint. Contact your local Litum office for further information.

Disclaimer

The information in this document is given to the best of Litum's knowledge, based on laboratory testing and practical experience. Litum's products are considered as semi-finished goods and as such, products are often used under conditions beyond Litum's control. Litum cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Litum reserves the right to change the given data without further notice. Users should always consult Litum for specific guidance on the general suitability of this product for their needs and specific application practices. In case of any inconsistencies between two languages of this document, the Russian version will prevail.