ARMOUR-GUARD MEMBRANE SPRAY

Extremely flexible, PUMA based, liquid, fast curing, manually applied, elastomeric waterproofing membrane

Armour-Guard® Membrane Spray is a highly reactive, extremely flexible, liquid and easy to apply, elastomeric waterproofing membrane or wear layer with a very high durability even at very low temperatures and has been developed for professional plural component 1:1 spraying installations.

BENEFITS

- Sprayable 1:1 mixing ratio
- High reactivity
- Can be used horizontally and vertically
- High elongation
- Applicable at low temperature -25°C / 13°F
- Crack bridging
- Cold application
- High chemical resistance
- Thermal shock resistant
- Resistant to deicing salt

FIELD OF APPLICATION

Armour-Guard Membrane Spray is primarily used as an extremely heavy-duty, seamless, bridge deck waterproofing and corrosion resistant membrane. It can also be used in other areas where extreme performance and protection is desired.

- Roofs
- Terraces
- Balconies
- Galleries
- Parking roofs
- Bridges
- Reservoirs
- Emergency basins

APPLICATION

Note: The following is a typical application description. In case of other jobsite parameters, please contact a Transpo Regional Manager.

Pre-application Checks

Before starting the substrate preparation and applying the products, it is important to test various parameters in order to achieve an optimal and sustainable result.

Compressive strength of the substrate: minimum 25 N/mm² / 3,500 psi.

Tensile strength of the substrate: minimum 1.5 N/mm² / 220 psi.

Armour-Guard Membrane Spray must be applied on a dry surface.

Moisture content in the substrate should be ≤ 6% checked with Tramex CME5 or similar moisture encounter device.

Exception: ≤10% moisture if Armour-Guard Primer W is used.

Appropriate and correctly placed expansion joints must be provided where required and these should not be overcoated.

The flatness/slope of the surface must be consistent with the desired requirements. Should this not be the case, corrective measures must be taken to fill in or smooth out the unevenness with compatible products, such as Transpo T-17.

Shrinkage cracks and passive cracks can be coated provided they are not performing as expansion joints and they are isolated from other movements of the structure. They should be addressed and treated with products that are complementary to the substrate and to the Armour-Guard System to be installed.

Required Tools

- Mixer with spiral paddle (min. 300 rpm)
- Professional plural component 1:1 spraying equipment
- Masking tape

Preparation of the Substrate

Armour-Guard Membrane Spray should be applied on a suitable primer depending on the type of substrate.

Armour-Guard Primer S: Dry, form-retaining, mineral substrates.

Armour-Guard Primer F: Moving or less form-retaining mineral substrates, asphalt or bituminous membranes.

Armour-Guard Primer W: Damp, form-retaining, mineral substrates.

Always consult the Armour-Guard primers technical data sheets. It is not necessary to place a primer on existing Armour-Guard Systems before applying Armour-Guard Membrane Spray.

Before applying the primer:

Cracks, joints and other parts that show water leaks must first be made completely water-tight and leak-proof.

The surface must be mechanically prepared to CSP 4-6 / SSPC-SP 10 (NACE No. 2) by abrasive blasting, scarification, milling, micro milling or other process providing that it achieves the required surface profile. Tiles are to be fully degreased and ground with a diamond blade. These treatments ensure that an open texture surface is obtained, to remove the cement laitance from concrete and old remnants of coatings and adhesives. Galvanized steel should be thoroughly cleaned in advance with water and soap or sandblasted. Degrease metal surfaces immediately after the mechanical preparation with MEK. After the MEK has fully evaporated, immediately apply a layer of Armour-Guard Primer F to prevent the steel from re-oxidizing.

High pressure water jetting is possible but the surface must dry sufficiently before applying the primer. Moisture content in the substrate: ≤6% moisture. (Exception: ≤10% moisture if Armour-Guard Primer W is used.)

Always apply the products on a clean surface, free from adhesion reducing and deleterious substances such as dirt, oil, grease, old coatings or surface treatments. Areas of the surfaces to be coated that do not meet the requirements as described above (compressive strength, tensile strength, parts that are not well connected) must be treated or removed and repaired according to a correct method and with products that are complementary to the substrate and the Armour-Guard System to be installed. Remove any loose parts by brushing properly and with compressed air / high-power leaf blowers and remove dust with an industrial vacuum cleaner.

Preparation of the Product

Mix all Armour-Guard Membrane Spray components well before use. Avoid contact between Component A and Component B during mixing. Add one 2.4 kg package of Armour-Guard X-51 to 40kg of Armour-Guard Membrane Spray Component A. This mixture remains stable for 12 hours when stored closed under normal environmental conditions and protected from direct sunlight.

If a different color is desired than the standard color, 5% by weight of Component B can be added to Component B and mixed well until a homogeneous mass is achieved. Add 2% to 12% Armour-Guard Catalyst to Armour-Guard Membrane Spray Component B.

Always add Armour-Guard Catalyst to Armour-Guard Membrane Spray Component B.

Temp.	In % (of weight Component A + Component B)	In grams (add to 40 kg Component B)
0°C / 32°F	10%	4000 g
5°C / 41°F	8%	3200 g
10°C / 50°F	6%	2400 g
20°C / 68°F	4%	1600 g
30°C / 86°F	2%	800 g

Preparation of the Equipment

The best result for spraying Armour-Guard Membrane Spray is obtained by using a plural component pump and static mixer at the end of high-pressure hoses. Please contact a Transpo regional manager for further information regarding spray equipment.

Always work with clean mixing containers and application material. The pump must be flushed before starting to spray. Both components must be mixed with a static mixer or mixing chamber. Check the 1:1 mixing ratio, deviations in mixing ratio will negatively influence the quality and properties of the membrane.

Application

Armour-Guard BDM Spray can be used in a wide variety of applications. Please refer to individual System Build Sheets (SBS) for details of your specific application and/or project.

Application Conditions

Conditions during the application and curing of the products. The recommended processing temperature for substrate, environment, material and products is between 0°C and +35°C / 32°F and 95°F. For temperatures lower than 0°C / 32°F please contact a Transpo regional manager for guidance.

Relative humidity: Max. 85%

Dew point: The temperature of the substrate and of the applied product must be at least 3°C / 5°F higher than the dew point. Avoid condensation on the surface from the moment that the preparations start until the complete curing of the products. Ensure adequate ventilation during application and curing.

Cleaning and Maintenance

Clean the used tools with Armour-Guard Cleaner before the curing of Armour-Guard Membrane Spray. Cured products residues must be removed mechanically.

Complementary Products

- Cleaning solvent for tools: Armour-Guard Cleaner
- Armour-Guard Catalyst
- Pigment powder
- Depending on the application: Armour-Guard Membrane Manual, Armour-Guard Thixo, Armour-Guard Bond Coat, Armour-Guard Primers and Topcoats

Advice / Focal Points

Always consult all technical and safety data sheets of the products concerned.

TECHNICAL DATA

Appearance — Composition

Armour-Guard Membrane Spray: two pasty base components.

Armour-Guard Membrane Spray standard color: grey RAL 7040. Also available in color RAL 7046 where required for two coat systems.

Armour-Guard X-51: colorless liquid.

Reaction Times

Reaction time: 10 to 15 min.

Trafficable: after 1 hour

Recoat: after 1 hour

Fully mechanical load: after 2 hours

Full chemical resistance: after 2 hours

Times measured at 20°C / 68°F; lower temperatures extend the curing time.

Consumption

Armour-Guard Membrane Spray consumption depends on the substrate and the project type.

The minimum layer thickness of Armour-Guard Membrane Spray is 1.5 mm = 1.8 kg/m^2.

Technical Data

Odour	Methyl methacrylate (See also information sheet “Armour-Guard Odour”)
Initiator: Armour-Guard Catalyst	BPO 50%, depending on the temperature from 1% to 6% weight calculated on the proportion of Armour-Guard Membrane Spray
Viscosity	5000 – 8000 mPa.s (20 °C Brookfield, spindle VI / 50 tr/min.)
Density	1.2 g/cm³ ± 0.1 (20°C)
Flash point	10°C (MMA, DIN 51755)
Peak exotherm temp.	110 – 130 °C
Armour-Guard Membrane Spray Component A + 5.8% Armour-Guard X-51 (weight % Component A) Armour-Guard Membrane Spray Component B + 4% Armour-Guard Catalyst (weight % Component B)	
Density	1.2 g/cm³
Colour	Gray/White
Shore D hardness	40 - 60

Chemical Resistance

Polymerized Armour-Guard resins have good chemical resistance to alkalis, petroleum derivatives, acid, salts and maintenance products. For more information please contact Transpo.

TRANSPO® INDUSTRIES

CE Marking

CE

0749	
Transpo Industries	
13 0749-CPR-BC2-562-4717-0001-001	
EN 1504-2 : 2004 Surface protection products – Coating	
Bond strength by pull-off	≥1.5 (1.0) N/mm^2
Thermal compatibility: Freeze-Thaw with deicing salts	≥1.5 (1.0) N/mm^2
CO2 permeability	S_D≥50m
Water vapour permeability	Class II
Capillary water absorption	w<0.1kg/(m^2 • h$^{0.5}$)
Surface Resistivity, Ω	2.68 x 10^{11}
Volume Resistivity, Ω-cm	8.41 x 10^{12}
Crack bridging	Class B3.1 (-10°C)
Crack bridging ASTM C1305M-16	40 cycles
Elongation ASTM D638-14	>385%
Wear resistance: Systems (Membrane: Taber, CS17/1000/1000)	<3000mg (<100mg)
Impact resistance	Class III
Skid resistance (in specific system)	Class III
Artificial weathering	No visual defects
Reaction to fire	E_{FL}(B_{FL}-s1 in system with Armour-Guard Topcoat AF)
Dangerous substances	Complies with 5.4
DoP N°: DOP02PLC01S2	

Reference documents

Information sheet “Armour-Guard Odour.”

FM 78518

PACKAGING

Armour-Guard Membrane Spray

Component A	40 kg / 220 kg 8.8 gal / 48.44 gal	Metal pail
Component B	40 kg / 220 kg 8.8 gal / 48.44 gal	Metal pail
Component C	2.4 kg / 13.2kg 0.49 gal / 2.68 gal	Plastic pail

To be ordered separately:

Armour-Guard Catalyst

10 kg / 22 lb	Plastic pail
25 kg / 55.1 lb	Box

STORAGE AND SHELF LIFE

Store Armour-Guard products in a dry, well-ventilated storage area between +5°C and +35°C / 41°F and 95°F.

Shelf life: 12 months after production date.

In case of doubt, please contact Transpo and state the batch number on the packaging. Do not discharge into groundwater, surface water of sewers. Dispose of contaminated packaging and residues in accordance with the applicable legal requirements.

SAFETY PRECAUTIONS

Carefully read the safety data sheets before using Armour-Guard products. A characteristic odour arises during processing. Ensure adequate ventilation, keep away from sources of ignition and do not smoke. Avoid skin contact. Eye irritation and/or hypersensitivity may occur with severe vapor concentration, inhalation and/or skin contact. Do not store food, drinks in the same workspace. Always wear personal safety equipment in accordance with the applicable local guidelines and legislation. Gloves and safety glasses are mandatory.

The value ranges stated above are based on system processing under laboratory conditions. Equipment configurations and/or field application conditions may produce variances in final system values.

To be used as general guidelines only.

The base language for this technical data sheet is English.

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