ATK-COAT

Membrane 100% pure polyurea

TECHNICAL INFORMATION

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The 100% pure polyurea ATK-COAT system was developed as a single coating suitable for waterproofing, protection and sealing in general.

The pure polyurea ATK-COAT membrane is made up of two liquid components, isocyanates and amines, which are mixed together using spray equipment.

ATERKI has developed an aromatic, high density polyurea, the properties, usage and characteristics of which are described below.

ACCEPTED USES:

For waterproofing and protection of:

- Sloped roofs, terraces, balconies and overhangs.
- Tanks and irrigation canals (R.D. 140/2003 certification, pursuant to European Directive 98/83/CE).
- Coating for bridges (under asphalt), and elements of civil engineering.
- Industrial floor surfaces with waterproofing and hard-wearing requirements (UNE-EN 1504.2 certification).
- Floor surfaces and roofs in car parking facilities with vehicle traffic, non-slip finish (pursuant to UNE ENV 12633:2003).
- Swimming pools, aquariums and lakes.
- Retaining walls and foundations.
- Roofs and roof gardens (Category P4 under EOTA, highly protected roof).
- Power, recycling, waste treatment and storage plants (UNE-EN 1504.2 certification), and petrochemical plants.
- Vehicle and boat coatings.
- Fibre-cement roofs.

CE

Liquid Waterproofing System, Based on Pure Polyurea		
EOTA CERTIFICATION	ETA validation Nº	14/0397
	Minimum thickness	1,4 mm
	Working life of the system	25 years W3
	Tensile strength	23 MPa
	Roof slope	S1 ~ S4
	Surface temperature range	-20 ~ +90 ºC
	External fire performance (UNE-EN 13501-5)	Broof (t1)
	Fire reaction	Euroclass E
	Resistance to wind loads	Able > 50Kpa
	Resistance to water vapour (UNE-EN 1931)	μ = 2.279
	Resistance to plant roots (EN 13948)	Yes
	Statement on dangerous substances	VOC's zero
UNE-EN 1504.2	Water vapour transmission properties (UNE-EN ISO 7783:2012)	CLASS I: SD<5m
	Carbon dioxide permeability CO2 (UNE-EN 1062-6:2003)	SD<50m
	Liquid water permeability (UNE-EN 1062-6:2003)	W < 0.1 kg / m^2 * $h_{0,5}$

GENERAL FEATURES:

- ATK-COAT is a very sturdy and hard-wearing product that, once applied, offers great stability and durability.
- It holds W3 certification (ETA 14/0397), and has a useful life of 25 years with a minimum thickness of 1.4 mm.

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- Thanks to its versatility and its drying time of between 3 and 5 seconds ATK-COAT adapts to any surface, making it the ideal product for application on uneven surfaces and in areas of any shape, whether curved or squared.

- Applying ATK-COAT saves in seals and any other kind of joins, as the finish is uniform and makes up a single layer, providing a surface with optimum maintenance and cleaning properties.

- The ATK-COAT pure polyurea membrane system should be applied in dry conditions avoiding the presence of humidity or coming from the surface to be coated or the substrate, whether at the time of application or subsequently (pressure from phreatic water level).

- In the event there is humidity in the substrate at the time of application, consult the technical specifications of our primers where the maximum humidity ranges are specified, or our Technical Application Manual for ATK-COAT. (TAM).

- The ATK-COAT system requires solar radiation protection (UV rays) to ensure it does not lose its properties, given that it is an aromatic membrane. Therefore, our EOTA approved system incorporates a protective varnish, ATK-TOP, for use in the absence of other physical protection elements.

- ATK-COAT is immune to temperature changes of between -40º and +180º, conserving its elastic properties without becoming cracked or soft.

- The fast reaction of ATK-COAT upon application provides great stability in a few seconds and it may be walked on and guarantees waterproofing in less than 3 hours. This polyurea reaches its optimum conditions after approximately 24 hours.

- Contact with fuels, fertilizers, animal excrements or urine do not soften ATK-COAT (Consult chemical resistance with our technical department)

- The ATK-COAT system's properties enable it to bond to any surface, such as cement, concrete, polyurethane, wood, metal, etc. Furthermore, due to its resistance it can be walked on and it will accept a rough finish to make it non-slip.

COLORS:

REFERENCE	COLOR
ATK.T1	DARK GREY
ATK.T2	BLACK
ATK.T3	GREY
ATK.T4	RED

YIELD:

Product yield is 2 kg/m² according the kind of application, or kind of surface (advice with MTA ATK-COAT).

PRESENTATION FORMATS:

Metal drums of 225 kg each component.

EXPIRY:

12 months at temperatures between 5° C and 25° C, provided it is stored in a dry place. Once the tin has been opened, the product must be used immediately.

APPLICATION:

In general, the following aspects should be dealt with prior to spraying:

- Repair the surface (fill in depressions, eliminate unevenness, eliminate any old waterproofing, etc.).

- Clean the surface or substrate, removing any dust, dirt, grease or efflorescence.

The ATK-COAT pure poliurea system can be applied to many different surfaces and the procedure will vary depending on its nature or state.

Below we set out some of the application for the most common surfaces; for other surfaces not described, please contact our technical department.

Concrete substrate:

Any depressions or voids should be repaired using a mix (ratio of 1:4) of our epoxy resin ATK-PRIMER ep mixed with silica sand.

The concrete should be completely cured (concrete curing takes 28 days) or, in any case, the maximum level of humidity allowed for the substrate should be verified, depending on the primer used.

Any concrete laitance or release agents should be eliminated and an open pore surface achieved by grit blasting, milling or sanding.

Next, clean and eliminate all contaminants from the elements, such as dust or particles from the previous processes.

Apply the primer in the conditions and with the parameters indicated in the technical specifications for these products. In general, the dual component polyurethane ATK-PRIMER pu should be used.

Metal substrate:

Metal surfaces should be prepared using sand-blasting, in order to improve the surface's mechanical fixation properties.

Check the seals and overlaps and where necessary seal with ATK-SEAL mastic or ATK-BAND, in combination.

For rapid and efficient cleaning of the surface use a ketone based solvent, our DILUYENTE TEC-4U Thinner.

Apply prior priming using a water-based epoxy type primer, our ATK-PRIMER w, to improve surface levelling and bonding. Consult the technical specifications of this product.

Ceramic substrate:

Ceramic surfaces should not have empty joints or loose elements or parts. These should be filled with ATK-SEAL mastic, complemented with ATK-BAND on the joints if necessary.

For rapid and efficient cleaning of the surface use pressurised water and check that it evaporates completely. Also verify that all dust and other physical contaminants have been eliminated.

Next apply the required primer; in these cases of non-porous surfaces use the water-based epoxy ATK-PRIMER w.

Sheets substrate:

The existing sheet surfaces (asphalt, butílicas, PVC ...) must not show surface areas raised or not in good condition. He withdrew in poor areas.

There shall be cleaned with water, ensuring complete evaporation.

Always consult the waiting and drying times and application conditions for all products in the Specification Sheet for each product or in the technical manual for application of the ATK-COAT (TMA) system.

HANDLING AND TRANSPORT:

These safety recommendations for handling, are necessary for the implementation process as well as in the pre- and post, on exposure to the loading machinery.

Respiratory Protection: When handling or spraying use an air-purifying respirator.

Skin protection: Use rubber gloves, remove immediately after contamination. Wear clean body-covering. Wash thoroughly with soap and water after work and before eating, drinking or smoking.

Eye / Face: Wear safety goggles to prevent splashing and exposure to particles in air.

Waste: Waste generation should be avoided or minimized. Incinerate under controlled conditions in accordance with local laws and national regulations.

Anyway, consult the safety data sheet of the product, are publicly available.

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COMPLEMENTARY PRODUCTS:

The ATK-COAT system may be complemented with the following products as a means of protection or to improve its physical-mechanical properties depending on its exposure, the desired finish or the type of substrate.

ATK-PRIMER ep: Mixed with silica sand in a ratio of 1:4, this is used to fill in depressions in concrete surfaces, rapidly providing a firm and fast drying even base.

ATK-PRIMER puATK-PRIMER w-ATK-PRIMER puc: These primers are applied on the substrate beforehand to improve bonding and level the surface, as well as regulating the humidity in the substrate (see permitted levels in their technical specifications).

ATK-TOP-: Dual-component coloured aliphatic polyurethane varnish used to protect roofs and floors or ground against UV rays when there is no other protection.

ATK-TOP POOL-: Dual-component coloured aliphatic polyurethane varnish used to protect against UV rays and chlorinated water when waterproofing swimming pool, lakes and aquariums.

ATK-NS: This plastic powder, once mixed with ATK-TOP, forms a rough surface, conforming even to norm UNE ENV 12633:2003 (floors slipperiness), to achieve Class 3 (>45 slip resistance), depending on dosage (consult our technical department).

ATK-BAND: Cold bond deformable band made up of an upper layer of non-woven textile and lower layer of viscoelastic self-adhesive coating, which together allow it to adapt to the shape of the substrate. This band is ideal when dealing with structural joints and overlapping metal materials.

ATK-SEAL: Polyurethane mastic for filling joints (use together with ATK-BAND when necessary).

APPLICATION REQUIREMENTS (MACHINE GUN):

- Heater temperature: 70-75ºC
- Hose temperature 65ºC ~75ºC
- Pressure: 1800 ~ 2600 psi (130 ~ 180 bar)

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PROPIERTIES (ACCORDING ETA 14/0397):

PROPERTIES	VALUES	RESULTS	METHOD
Density	kg/m3	1.100	BS 4370 PART 1 METH 2
Elongation at break at 23ºC	%	>300	ISO 527
Tensile Strenght at 23ºC	23 MPa initial ~ 17 MPa a 25 years		UNE-EN ISO 527-3
Hardness (Shore A)		>90	DIN 53.505
Hardness (Shore D)		>50	DIN 53.505
Working life	W3 25 years and 1,4 mm of thickness		
Climatic zone	S (hard weather)		
Surface temperatures	-20ºC ~ 90ºC		
Resistance to water vapor diffusion	µ	2.279	UNE EN 1931
Water wapor diffusion	g/(m2 / d)	14	UNE EN ISO 7783
User load	P4 (green roof, heavily loaded)		
Roof slope	S1~S4 (≥0º slope),zero		
External fire behavior	Class. Broof (t1)		UNE-EN 13501-5:2007 A1:2010
Fire reaction	Euroclass E		
Resistence to movement	according at 1.000 times		EOTA TR-008
Gel time	±3 ~ 5 seconds		
Cured time	±12 hours		
Solids (VOC zero)	100%		
Anti roots	YES		UNE-EN 13948:2008
Chemical resistance	Resistant to many products and chemicals (consult technical depart-ment)		
Thermical resistence	It behaves consistently with temperatura range of: -40ºC ~ +180ºC		

TECHNICAL DATA (ACCORDING ETA 14/ 0397):

PROPERTIES	COMPONENT A	COMPONENT B
Specific gravity (g/cm3)	1,11	1,09
Dry extract at 105ºC (% weight) EN 1768	≥99	≥99
Ashes at 450ºC (% weight) EN 1879	≤1	≤1
Viscosity (cps) (S63, 30 r.p.m. at 25ºC) UNE-EN ISO 2555	600±50	400±50
Mix ratio – in weight	100	102
Mix ratio – in volum	100	100

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TECHNICAL DATA (ACCORDING UNE-EN 1504.1):

PROPERTIES	VALUES	RESULT	METHOD
Abrasion Resistance	Mass loss	133 mg	UNE-EN ISO 5470-1:1999
Mass drop test	No craks, no flacking, 20Nm mass 1000 g	Class II>10Nm	UNE-EN ISO 6272-1-2004
	No cracks no flacking, 20Nm, mass 2000 g	Class II>20Nm	
Resistance to strong chemical contact	Clase I: 3 días sin presión		UNE-EN 13529:2005
	Shore D initial 53	Class I: 3 days without pressure UNE-EN 13529:2005	
	H2SO4 at 20%	Shore D final 50	
	Oil motorsr	Shore D final 49	
	Salt 20%	Shore D final 53	
	Bleach	Shore D final 47	
	Na OH 20%	Shore D final 51	
	Diesel	Shore D final 50	
Water liquid permeability	kg/m2 h 0,5	w<0,0045: (< 0,1 kg/m2 h0,5)	
Water vapor transmission speed	V=6,67 (g/m2 x day)	Class I: Sd<5 m (permeable to vapor)	UNE-EN ISO 7783:2012
Equivalent air layer thickness	0,80 Sd (m)		UNE-EN ISO 7783:2012
Carbon dioxide permeability	Sd>50 m		UNE-EN 1062-6:2003