

Technical Data Sheet

ACE-7052 HE

DESCRIPTION

ACE-7052 HE is an aromatic two component modified polyurea. The chemical is manufactured in two component parts and is mixed together at the point of application to create a continuous high performance elastomeric membrane in just seconds. 100% solids, this environmentally friendly process contains neither solvents (VOC), nor CFCs. The fast reaction allows for multiple coats, adding up to any desired thickness and in any color. Excellent performance with high and very low temperatures.

TYPICAL PROPERTIES OF COMPONENTS

Property	Side A Isocyanate	Side B Polymix
Appearance	Liquid	Liquid
Color	Clear Amber	Yellow
Specific gravity @ 77 °F (25 °C)	1.10-1.12	1.02 - 1.04
Viscosity, mPa s @ 77 °F (25 °C)	600-650	620-900
Ratio	1	1
Freezing point	Less than 32 °F (0 °C)	

TYPICAL PROPERTIES OF SYSTEM

PROPERTIES	RESULTS	TEST
Hardness (Shore A)	97	ASTM D 2240
Hardness (Shore D)	45	ASTM D 2240
Reactivity @ 70 °C	4 - 5 seg	
Specific Gravity	1.01	ASTM D 792
Solids	100 %	
Volatile Organic Compounds	0 %	
Weather Resistance	Aromatic system. Requires UV protection	ASTM D 4329
Elongation	270 % 10%	DIN 53404
Tensile strength	2654 psi 10%	DIN 53404
Tear Resistance Die C	225 Pli 10%	ASTM D 624
Rebound resilience	30 - 33 %	ASTM D 2632
Adhesion	Steel 800-1000 psi / Concrete >500 psi	ASTM 4541
Taber Abrasion, mg of loss/1000 cycles, 1000 grs, CS-17 Wheel	11 mg	ASTM D 4060
Taber Abrasion, mg of loss/1000 cycles, 1000 grs, H-18 Wheel	130 mg	ASTM D 4060

PROCESSING CONDITIONS

ACE-7052 HE system components can be processed and sprayed on high-pressure equipment. It is essential to have equipment that consistently delivers accurate amounts of both components to the mixhead to achieve a highperformance elastomer.

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Processing	
Processing Temperature	170 °F
Mixing Ratio (Side A/Side B), by Volume	1 / 1
Reactivity:	
Gel Time:	4 - 5 Sec
Tack-Free	2 - 3 min

PROTECTION THROUGH RESISTENCE

The ART-7052 HE system provides excellent resistance to debris, bacteria and a variety of chemicals, making it a superior product for use in a wide range of applications, from chemical transport to food handling.

Chemical Categories	Rating		Chemical Categories	Rating	
	25°	70°		25°	70°
Water	1	1	Boric Acid 4%	1	2
Sulphuric Acid 10%	2	3	Nitric Acid 10%	3	3
Sulphuric Acid 25%	2	3	Citric Acid 10%	1	1
Sulphuric Acid 50%	3	3	Castor Oil	1	2
Sulphuric Acid 60%	3	3	Heptane	1	2
NaCl Solution 10%	1	1	Gasoline	2	2
NaCl Solution 20%	1	1	Methanol	3	3
NaCl Solution 30%	1	1	Ammonium Hydroxide 28%	1	2
Methylene Chloride	3	3	Formaldehyde 37%	1	1
Sodium Hydroxide 10%	1	1	Sugar solution 30%	1	1
Sodium Hydroxide 20%	1	1	Xylene	3	3
Sodium Hydroxide 40%	1	2	Phosphoric Acid 25%	1	2
Sodium Hydroxide 50%	1	2	Phosphoric Acid 50%	1	2
Potassium Hydroxide 20%	1	3	Chloride acid 45%	2	3
Acetic Acid 2%	1	2	Hydrogen peroxide 10%	2	2
Acetic Acid 5%	1	2	Hydrogen peroxide 30%	2	2
Acetic Acid 10%	1	2	Oleic Acid	3	3
Acetic Acid 50%	3	3	Ammonium Sulphate 5%	1	1
Urea 5%	1	1	Ammonium Sulphate 10%	1	1
Urea 10%	1	1	Ammonium Sulphate 25%	1	1
Urea 25%	1	1	Ammonium Sulphate 40%	1	1
Urea 50%	1	1	Sodium Hypochlorite 13%	3	3
Diesel	1	2	Sodium Hypochlorite 3%	3	3
1 Good 2 Regular 3 Bad					

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ELECTRICAL PROPERTIES

PROPERTIES	RESULTS		TEST
Dielectric Constant	Frequency		
	100 KHz	100 Hz	ASTM D-150
	40 °C	4.98	5.98
	60 °C	5.12	7.18
	80 °C	5.48	9.22
Dissipation factor	Frequency		
	100 KHz	100 Hz	ASTM D-150
	40 °C	0.288	0.662
	60 °C	0.275	5.882
	80 °C	0.266	24.658
Resistivity	1.219 * 10 ¹¹ ohms-cm		ASTM D-257
Dielectric strength	1554 V/mil		ASTM D-149

THERMAL PROPERTIES

PROPERTIES	RESULTS	TEST
Thermal conductivity (K)2	0.208 W / m °C	ASTM C-177

FIRE RESISTANCE

Classified as EUROCLASS E
 Broof-T1 for roofs waterproofing
 CFI-S1 for floorings

APPLICATION METHOD AND REQUIREMENTS ACCORDING TO SUBSTRATE

APPLICATIONS ON CONCRETE / MORTAR:

- 1) The substrate must be firm, with a minimum tensile strength of 1.5 N/mm², tensile strength compression of at least 250 N/mm, the concrete cured for at least 28 days and with a PH between 9 and 12.
- 2) Surface must be structurally sound, free of grout and contaminants such as rust, fats or salts, and completely clean of dust, remains of vegetation or any other agent which may negatively affect adherence.
- 3) The support must be dry (less than 5%, ASTM D 4263) and with minimal vapour transmission of humidity (less than 3lb/24hr/1000ft² RMA Test Method).
- 4) For surface preparation the surface (substrate) must be roughened according to ICRI 03732 to a minimum profile of CSP 3 by diamond grinding, shot blasting, hydrocleaning or any other valid preparation technique. Once the mechanical treatment has been carried out, the generated contaminants will be removed leaving the resulting support clean and free of dust.
- 5) If there are cracks, they will be treated according to their nature and gaps and cracks of >1.5 mm will be filled with elastic putties (ACE MP-4035, ACE MP-4037, ACE MP 4090) or repair mortars suitable for obtaining a uniform surface. Our technical staff will advise you on the suitable material for each case.

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6) Once the singular points have been treated, a primer will be applied to the entire surface for the improvement of the conditions of the substrate and promote adherence; Apply the polyurea system respecting the minimum and maximum over coating time of the primer that you will find in your technical sheets and provided that the temperature of the substrate is at least 3°C higher than dew point.

Suitable primers for concrete / mortars:

ACE PRIMERFLEX PLUS, ACE EPOPRIME 100, ACE EPOPRIME 52WB

APPLICATIONS ON STEEL

- 1) Before shot blasting, the steel surface must be cleaned according to SSPC-SP1 to ensure complete absence of both visible and non-visible contaminants using solvents, water vapour, alkaline solutions, soapy emulsions, detergents or organic solvents that remove from the substrate contaminants such as grease, oil, dust and salts soluble in the cleaning agent. A maximum surface chloride of < 3 ug/cm² should be achieved, NACE 6G186, CHLOR*RID
- 2) All imperfections, sharp edges or pointed ends will be removed from the support using mechanical tools and the entire surface will be mechanically treated by means of bead blasted or air blasted to "near white metal" grade SSPCSP-10 No. 2 / SA 2 ½ and profile of roughness 50-75mic. (75 mic. required for immersion).
- 3) After thoroughly cleaning the surface, primer will be applied and within the day, before the prepared steel surface can be contaminated or oxidized again, it must be covered with the next layer.
- 4) The coating can only be applied if the substrate temperature is at least over 3 degrees to dew point to prevent condensation and the primer is cured, dry and clean and within your repainting window.

Suitable Primers for Steel:

ACEBOND, ACE EPOPRIME 100, ACE EPOPRIME AC

GEOTEXTILE APPLICATIONS

- 1) The use of non-woven and treated heat protection polypropylene short pile geotextiles is recommended.
- 2) The geotextiles will be spread over the surface to be treated overlapping each other by about 15cm and avoiding wrinkles. Likewise, any element that could damage them should be removed from the support.
- 3) Do not walk on the geotextile until you have the coating applied to prevent it from rip or fray.
- 4) Apply the coating starting in the centre and working towards the contour of the surface. Let the membrane settle for at least 1 hour before crowning application in case the treated geotextile will not end up in the drainage screed.

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OTHER SUBSTRATES

To find out about the application procedure on other substrates, request information from our technical staff or local representative.

PROCESSING PARAMETERS

- Product temperature: 65°C - 77°C
- Proportion by volume Component A: Component B: 1 / 1
- Working pressure: 2000 psi – 3500 psi

APPLICATION PROCEDURE

- 1) It is advisable to keep the products at the indicated storage temperature and in any case, pre-heat them to 20°C before starting to apply the material.
- 2) Component B of the system must be shaken for 20-30 minutes to homogenize its content and colour using pneumatic agitator or electric drill with blades at low speed.
- 3) It is required to use a high pressure hot spray equipment able to reach and steadily maintain the temperatures and pressures necessary to process the System Components.

Suitable equipment: GRACO REACTOR GRACO HX-P2 and HX-P3 or equivalent.

The metering pump must be capable of heating components A and B to 65 – 77 °C (150 – 180° F) and generating a pressure between 14 - 24 MPa (2000 – 3500 psi) and heated hoses are required to maintain liquid temperatures until they reach the spray gun.

Only proper maintenance and cleaning of the equipment and spray gun will guarantee a correct product application. Follow your provider's instructions.

- 4) Before beginning application on the working area, test on a clean dry material to verify that the product cures properly and in time, otherwise check the equipment and possible procedural errors (bad agitation, inadequate temperatures...)
- 5) Apply the ACE polyurea system consistently and evenly, making successive passes until the expected thickness is obtained in a single application. If you need to reapply over the membrane on the same day, e.g. to add thickness or seal a pore, make sure the polyurea is still clean and dry before spraying the new layer and do it preferably after 1-2 hours to guarantee the best adherence. When applying new polyurea on a membrane already cured (overlaps of the following days, repairs...), you must do a light sanding and clean the surface with acetone beforehand or use ACE-400 activator or primer.
- 6) Once the desired thickness is obtained, if you are going to give an "over-spray" textured finish, apply it from a distance of about 2-3m as soon as you finish the section. Do not wait to finish the application of the entire surface to give the dripping because it will have adhesion problems.

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7) When applying aromatic systems that do not carry another type of heavy protection (landscaped, ceramics,...) must be protected by applying an aliphatic top-coat such as ACE ALIFLEX, ACE 373 PLUS, ACE SP FLEX, ACE ACRISHIELD, ACE UV SHIELD.

8) Remember that both primers and polyurea or top-coats should be applied only when the substrate temperature is at least 3° C higher than dew point and always respecting the information provided in the technical sheets regarding:

- The minimum and maximum repainting times indicated
- The temperature and humidity of the environment and the suitable substrate

9) These products are exclusively for professional use. Consult the Safety Data Sheet before using them and use safety clothing and protective equipment at all times recommended respiratory. Proper application of the product is the responsibility of the user.

PRESENTATION

- Sets of 225 kg A + 200 kg B.
- Sets of 56 kg A + 50 kg B on request

STORAGE AND TRANSPORTATION

Component A/ Isocyanate:

The original drums must be kept perfectly sealed in order to prevent contamination due to moisture or any other materials that may have a negative impact on the processing of the product. This product reacts slowly with water creating polyureas and liberating CO₂, which may cause the sealed drums to expand and break.

This product is hygroscopic and therefore the drums have to be sealed to prevent the absorption of moisture, which could affect its processing negatively.

It is recommended to store this product between 24 °C – 40 °C (75 °F – 104 °F) and it can be stored 12 months by keeping the product in the original containers properly sealed.

Component B/ Polyamine:

This product is hygroscopic and therefore the drums have to be sealed to prevent the absorption of moisture, which could affect its processing negatively. It is recommended to store this product between 10°C – 45 °C (50 °F – 113 °F) and it can be stored 12 months by keeping the product in its properly sealed original containers.

Products transportation will be made according to the current legislation in each territory regarding both land and marine transportation matters, and it does not admit airplane transportation. See security sheet to know more about the classification of the substances in each case.

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WASTE MANAGEMENT

In accordance with the provisions of Law 11/1997 and Article 18.1 of the Regulations that develops "the person responsible for the delivery of the packaging waste or used packaging for its correct environmental management will be the final holder of it."

WARRANTY AND LIMITATIONS OF LIABILITY

Ace Coatings warrants solely that the quality of the product meets its stated specifications at the time of production and that the product is delivered free of any legitimate third party claims of misuse of US patents associated with the product.

Ace Coatings disclaims all other warranties expressed or implied by law or trade practice, including but not limited to any warranty of fitness for a particular purpose or use.

Any claim submitted under this guarantee must be presented by the buyer directly to Ace Coatings, by written communication within a maximum period of 5 days from the detection of the defect, in no case beyond the expiration date of the product, or in any case, no later than 1 year from the date of delivery of the product to the buyer (the earlier option will be valid).

The buyer will not be able to make use of the guarantee if he does not notify Ace Coatings of the non-conformity as indicated above. Ace Coatings shall, in no event and under no circumstances (including negligence of any kind, strict liability or damages), be liable for any indirect, special, incidental or consequential damages related to, arising out of or resulting from any use of the product.

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