Chartek® 7E

International

Epoxy Intumescent

PRODUCT DESCRIPTION

Chartek 7E is a high performance, self reinforced epoxy fire protection product using patented technology.

The product is a high build, two pack epoxy material providing excellent durability and combined corrosion and fire protection with outstanding high heat flux resistance.

Certified for structural fire protection on carbon and galvanised steel. Tested in accordance with ANSI UL1709, BS476-20/21 (Part 20, Appendix D), ISO TR 834-3 (1994), ISO 22899-1 (qualified for high heat flux) and NORSOK-M501-Revision 6 System 5A.

INTENDED USES

Suitable for the protection of steel from the effects of cryogenic liquid release hydrocarbon pool and jet fires.

To preserve the functional integrity of structures and process equipment for a specified period of time.

Primarily intended for use in high risk environments such as, oil, gas, LNG, and petrochemical industries.

PRACTICAL INFORMATION FOR CHARTEK 7E

Gloss Level	Not applicable
Volume Solids	100%
Typical Thickness	Depends on protection required.
Theoretical Coverage	1 kg of Chartek 7E will provide 1 mm of fire protection to 1 m² (based on plural component application)
Practical Coverage	Allow appropriate loss factors
Density	1000 kg/m³ (62.427 lb/ft³) plural spray applied (ISO 1183:2004 Method A)
Method of Application	Two component heated plural spray unit

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
15°C (59°F)	2 hours	16 hours	12 hours	*
25°C (77°F)	1 hour	10 hours	6 hours	*
40°C (104°F)	1 hour	4 hours	4 hours	*

*Please consult AkzoNobel for further information

REGULATORY DATA

Flash Point (Typical)	Part A >100ºC; Part B >100ºC; Mixed >100ºC	
VOC	0.09 lb/gal (11 g/lt) 1 g/kg	EPA Method 24 EU Solvent Emissions Directive (Council Directive 2010/75/EU)

Coating hazard marker GB 30981.2-S-Pb≤1000-NC Qualified for GB 30981.2-2025

See Product Characteristics section for further details

SURFACE PREPARATION

Surface preparation and application should be carried out in accordance with the advice given in AkzoNobel Chartek 7E Application Manual.

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2019.

Abrasive Blast Cleaning

Chartek 7E is typically applied to surfaces which have been abrasive blast cleaned to a standard of Sa2½ (ISO8501-1:2007) or SSPC-SP10 and suitably primed.

Primers

Selected primers or priming systems must be stated on the qualified primer list from AkzoNobel. The preferred primer shall be an epoxy type at a specified thickness not exceeding 75 microns (3 mils). Alternatively, a two coat primer system, such as epoxy zinc and tie coat may be used; the combined specified thickness should not exceed 110 microns (4.5 mils).

APPLICATION

Mixing

For trowel application individual components should be stored at 35°C (95° F) and fully power agitated before mixing.

Mix Ratio

2.74 : 1 by weight
Refer to the Chartek 7E Application Manual

Working Pot Life

10°C (50°F)	20°C (68°F)	40°C (104°F)
40 minutes	35 minutes	25 minutes

Pot life values refer to trowel workability without thinning, heated to 35°C (95°F) before mixing. If material is not pre-heated pot life will be extended but mixing will be more difficult.
Working pot life is not applicable for plural airless spray application as the product is only mixed at the static mixer close to the spray gun, at the point of application. Refer to the Chartek 7E Application Manual.

Plural Component Airless Spray	Recommended and preferred	Heated plural equipment approved by AkzoNobel. No thinners required.
Airless Spray	Suitable	Recommended use minimum 68:1 modified airless spray unit, as qualified by AkzoNobel. Typically thinned by up to 5% solvent by volume.
Trowel	Suitable	Refer to the Chartek 7E Application Manual
Thinner	International GTA123	Only for pre-mix and trowel application - consult Chartek 7E Application Manual
Cleaner	International GTA007	

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA007. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with International GTA007. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

PRODUCT CHARACTERISTICS

The following conditions shall apply (or be generated) throughout the application:

Minimum Air Temperature	10°C (50°F)
Maximum Humidity	85%
Surface Temperature	A minimum of 3°C (5°F) above dew point of surrounding air.
General	Surfaces must be clean, dry and free from contaminants immediately prior to coating.

Application
Chartek 7E should be spray applied to ensure total wetting of the substrate is achieved. Where this is not possible by spray alone, then the first coat should be thoroughly trowelled and rolled to achieve this. The best time to overcoat Chartek 7E with itself is as soon after the minimum overcoating interval has been achieved or before the coating has had any chance to become contaminated.

Where Chartek 7E is to be overcoated with recommended topcoats, the following overcoating intervals will apply;

	Minimum	Maximum*
10ºC (50ºF)	24 hours	7 days
20ºC (68ºF)	18 hours	7 days
40ºC (104ºF)	6 hours	4 days

(*For Interthane 990 maximum overcoating interval is six months)

Mesh Application
Some ratings do not require any reinforcement mesh. If mesh reinforcement is required, AkzoNobel HK-1 or HK-2 carbon fibre mesh should be installed in accordance with specific fire design and as detailed in the Chartek 7E Application Manual. For mesh requirements seek specific advice from AkzoNobel.

After Mesh Application
Continue to spray apply Chartek 7E to bring up to the required film thickness

Equipment
Only equipment listed by AkzoNobel shall be used as detailed in the Chartek 7E Application Manual and by the AkzoNobel Technical Service Representative.

Applicator Qualification
Only companies in receipt of Qualified Applicator status from AkzoNobel shall be used for Chartek 7E application. Companies shall document that they comply with this requirement prior to work commencement. The Chartek 7E application shall be conducted by the Applicator Company using employees trained and qualified in the proper application procedures. As a minimum, Supervisory and QA/QC personnel on site shall be in receipt of individual qualifications, having attended an AkzoNobel Chartek Applicator Training School. This is a minimum requirement and shall be documented prior to work commencement.

Inspection & QA
This is the responsibility of the Applicator but as a minimum must conform to the procedures laid down in AkzoNobel Chartek QC Manual

Technical Service
This is available from AkzoNobel and should be co-ordinated to ensure attendance at job start up. The Applicator Company is responsible for ensuring AkzoNobel is notified of start up date.

Alternative Surface Preparation
Under certain project specific circumstances, AkzoNobel has developed procedures for wet blasting, ultra high pressure water blasting (hydroblasting) and power tool cleaning.

Maximum Surface Operating Temperature
At service temperatures of between 80°-120ºC (176°-248ºF) a suitable thermal barrier, e.g. Intertherm 7050, should be used between the substrate and the Chartek 7E.

Note: applied density values are typical and are provided for guidance purpose only. Please refer to the Chartek 7E Application Manual.

SYSTEMS COMPATIBILITY

Chartek 7E is designed for application to correctly prepared substrates which have been suitably primed. The following primer examples are qualified for use with Chartek 7E:

Intergard 269	Intershield 4000USP
Intergard 7500	Interzinc 52/Intergard 269
Intershield 300	

Generally Chartek 7E will be topcoated to meet owners' colour schemes and finish requirements. AkzoNobel recommends the use of topcoats in all external applications.

The following topcoats are recommended for Chartek 7E:

Interfine 2080*
Interthane 990
Interzone 954

* As regionally available

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Safety Data Sheet and the container(s), and should not be used without reference to the Safety Data Sheet (SDS).

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult AkzoNobel for further advice.

PACK SIZE

Kit Size	Part A Weight	Part B Weight
20 kg (44.1 lb) kit	14.65 kg (32.30 lb)	5.35 kg (11.79 lb)
50 kg (110.2 lb) kit	36.64 kg (80.78 lb)	13.37 kg (29.48 lb)

20 kg (44.1 lb) kit supplied as 1 drum Part A and 1 pail Part B. Part A drum is partially filled to allow Part B to be added and pre-mixed prior to application by single leg spray or hand trowel application.
50 kg (110.2 lb) kit supplied as 2 full drums Part A and 1 full drum Part B. Suitable for use with plural component airless spray pumps.

For availability of other pack sizes, contact AkzoNobel.

SHIPPING WEIGHT (TYPICAL)

Kit Size	Part A Weight	Part B Weight
20 kg (44.1 lb) kit	16.45 kg (36.27 lb)	7.15 kg (15.76 lb)
50 kg (110.2 lb) kit	38.44 kg (84.75 lb)	15.17 kg (33.44 lb)

STORAGE

Shelf Life: 18 months minimum in storage conditions from 1°C (34°F) to 30°C (86°F). Should be stored indoors and out of direct sunlight.

Important Note

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. We hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local representative that this data sheet is current prior to using the product.

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