

Epoxy Intumescent

PRODUCT DESCRIPTION

Chartek 1709 is a high performance epoxy intumescent fire protection coating system. The product is a high build, two pack material providing excellent durability and combined corrosion and fire protection. ANSI/UL 1709 tested and Exterior Listed by Underwriters Laboratories (UL). Specification tested by FM Approvals to ASTM E1529-06. Certified by Lloyd's Register (LR) using ISO TR834-3 and BS476, Parts 20 and 21 Appendix D, hydrocarbon time / temperature relationship, when applied over mild steel and hot dip galvanised steel.

INTENDED USES

For use in the oil, gas, petrochemical and power generation industries. For the protection of steel structures, pipework and vessels from the effects of hydrocarbon pool fires, jet fires and cryogenic spill and splash. All applications of Chartek 1709 shall strictly conform with procedures laid down in International Protective Coatings' Chartek Application Manual.

PRACTICAL INFORMATION FOR CHARTEK 1709

Color Medium Gray (Part A - Dark Gray; Part B - White)

Gloss Level Not applicable

Volume Solids 100%

Typical Thickness Depends on protection required. Normally in the range of 108-712 mils (2.74-18.08 mm)

Theoretical Coverage 1 kg of Chartek 1709 will provide 1 m² (based on plural component application) to 1 mm of fire protection

Practical Coverage Allow appropriate loss factors

Density 62.427 lb/ft³ (1000 kg/m³) - plural spray applied (ISO 1183:1987 Method A). The final applied density will be affected by equipment used and method of application. For further information the Chartek Application Manual should be consulted.

Method of Application Two component heated plural spray unit, modified airless spray unit or trowel applied (see Application section)

Drying Time

Temperature	Touch Dry	Hard Dry	Overcoating interval with self	
			Minimum	Maximum
50°F (10°C)	8 hours	18 hours	4 hours ¹	1 week
77°F (25°C)	5 hours	16 hours	3 hours ¹	1 week
104°F (40°C)	2 hours	6 hours	2 hours ¹	4 days

¹ Time at which the base layer can withstand a WFT gauge. Overcoating intervals differ when using other topcoats (see Product Characteristics and Systems Compatibility sections for further information). For all drying times, see also International Protective Coatings Definitions and Abbreviations.

REGULATORY DATA **Flash Point (Typical)** Part A >223°F (106°C); Part B >223°F (106°C); Mixed >223°F (106°C)

VOC 0.08 lb/gal (10 g/lit) EPA Method 24
2 g/kg EU Solvent Emissions Directive (Council Directive 1999/13/EC)
20 g/lit Chinese National Standard GB23985

See Product Characteristics section for further details

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SURFACE PREPARATION

Surface preparation shall strictly conform to procedures laid down in International Protective Coatings' Chartek 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 8504:2000.

Carbon Steel Substrates

Chartek 1709 is typically applied to surfaces which have been abrasive blast cleaned to a minimum standard of Sa2 (ISO8501-1:2007) or SSPC-SP6 and suitably primed. For optimum performance, blast clean to Sa2½ (ISO8501-1:2007) or SSPC-SP10 quality.

Galvanized Substrates

Ideally, galvanized substrates should be sweep blast cleaned to a standard similar to Sa1 (ISO8501-1:2007) or SSPC-SP16. For reduced surface preparation options, consult International Protective Coatings.

Primers

Selected primers or priming systems must have completed the primer qualification procedure from International Protective Coatings, feature on the International Protective Coatings published qualified primers list and be applicable to the appropriate certification. The preferred primer shall be an epoxy polyamide (e.g. Intergard 251) at a thickness not exceeding 3 mils (75 microns). Alternatively, a two coat primer system, such as epoxy zinc (e.g. Interzinc 52) and tie coat (e.g. Intergard 269) may be used, and should not exceed 4.5 mils (110 microns) combined dry film thickness. Specific primers have been tested to thicknesses outside these parameters; see the Chartek Primer List.

APPLICATION

Mixing	If applying Chartek 1709 by modified airless spray pump or trowel, it will first be necessary to thoroughly power mix a kit of Chartek 1709. Individual components must have been stored for 24 hours at 70 - 80°F (21 - 27°C) and fully power agitated before mixing.	
Mix Ratio	Always mix full kits. (For trowel application refer to the Chartek Application Guidelines).	
Working Pot Life	59°F (15°C) 120 minutes	77°F (25°C) 90 minutes
	The above figures are for trowel application. Working pot life is not applicable for plural airless spray application as the product is only mixed at the spray gun, at the point of application. For pre-mix airless spray, working pot life will be reduced in relation to the above figures. Refer to the Chartek Application Manual.	
Plural component airless spray	Recommended and preferred	Heated plural equipment approved by International Paint No thinners required
Airless Spray	Recommended	Recommended use minimum 68:1 modified airless spray unit, as qualified by International Protective Coatings. Typically thinned by up to 5% solvent
Trowel	Suitable	Typically thinned by up to 5% solvent
Thinner	International GTA123	Only for pre-mix and trowel application - consult Application Guidelines
Cleaner	International GTA007	
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA123. 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.	

Epoxy Intumescent

PRODUCT

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

CHARACTERISTICS

Minimum Air Temperature	50°F (10°C)
Maximum Humidity	85%
Surface Temperature	A minimum of 5°F (3°C) above dew point of surrounding air.
General	Clean and dry at all times.

Application

Chartek 1709 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 1709 with itself is 'wet on wet' or within 12 hours of application and before the coating has had any chance to become contaminated.

Where Chartek 1709 is to be overcoated with recommended topcoats, the following overcoating intervals will apply;

	Minimum	Maximum
50°F (10°C)	24 hours	7 days
77°F (25°C)	18 hours	7 days
104°F (40°C)	6 hours	4 days

Mesh Application

If mesh reinforcement is required, International Paint's HK-1 carbon composite mesh should be installed in accordance with specific fire design and as detailed in the Chartek Application Manual. For mesh requirements seek specific advice from International Protective Coatings.

Applicator Qualification

Only companies in receipt of Qualified Applicator status from International Protective Coatings shall be used for Chartek 1709 application. Companies shall document that they comply with this requirement prior to work commencement.

The Chartek 1709 application shall be conducted by the Applicator Company using employees trained 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 International Protective Coatings 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 International Protective Coatings Chartek QC Manual.

Technical Service

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

Alternative Surface Preparation

Under certain project specific circumstances, International Protective Coatings has developed procedures for wet blasting, ultra high pressure water blasting (hydroblasting) and power tool cleaning. Consult International Protective Coatings for specific advice.

Maximum Surface Operating Temperature

At service temperatures greater than >248°F (120°C) a suitable thermal barrier should be used between the substrate and Chartek 1709.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

**SYSTEMS
COMPATIBILITY**

Selected primers or priming systems must have completed the primer qualification procedure from International Protective Coatings and be listed on the International Protective Coatings published qualified primers list.

Generally Chartek 1709 will be topcoated to meet owners' colour schemes and finish requirements. International Protective Coatings recommends the use of topcoats in all external applications.

The following topcoats are recommended for Chartek 1709:

Interfine 878	Interthane 990
Interfine 979	Interthane 990HS

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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

Further information regarding Chartek products can be found at www.chartek.com.

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 Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

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 International Protective Coatings for further advice.

PACK SIZE

Kit Size	Part A Weight	Part B Weight
44.1 lb (20 kg) kit	31.5 lb (14.3 kg)	12.6 lb (5.7 kg)
110.2 lb (50 kg) kit	78.7 lb (35.7 kg)	31.5 lb (14.3 kg)

44.1 lb (20 kg) kit supplied as 1 drum Part A and 1 plastic 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.

110.2 lb (50 kg) 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 International Protective Coatings

SHIPPING WEIGHT (TYPICAL)

Kit Size	Part A Weight	Part B Weight
44.1 lb (20 kg) kit	35.5 lb (16.1 kg)	13.9 lb (6.3 kg)
110.2 lb (50 kg) kit	86.6 lb (39.3 kg)	35.5 lb (16.1 kg)

STORAGE

Shelf Life	1 year under normal temperature conditions. Should be stored indoors and out of direct sunlight. A temperature range of 34-86°F (1-30°C) must be maintained.	
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Disclaimer

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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