

Chartek 2218

Single coat 2-hour UL1709 epoxy passive fire protection system

Chartek® 2218 is our latest epoxy PFP system for installations requiring certification to the ANSI/UL1709 standard. Using patented technology, Chartek 2218 offers our lowest certified thickness for longer duration fires with the capability of jet fire protection. Simplified installation and unique rapid cure, even at low temperatures, enable faster application, improve production rates and reduce overall costs.

20% reduction in applied costs against the market leading epoxy PFP

Up to **50% more steelwork** coated per day compared to other epoxy PFP materials

Up to **300% more steelwork** coated per day compared to cementitious PFP

Up to **4 hours** pool fire protection

Up to **2 hours** jet fire protection

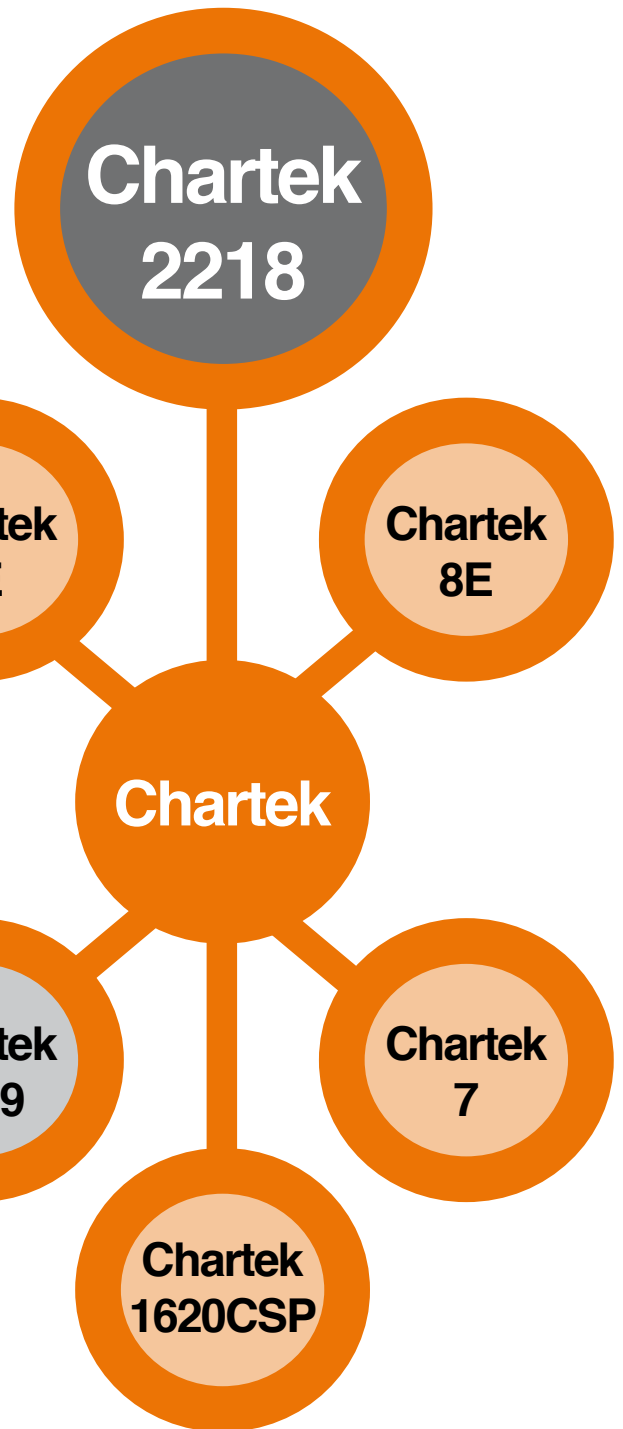
The Chartek family...

Chartek is the world's most complete range of high build intumescent epoxy PFP coatings and the first choice for the oil and gas industry worldwide.

With an in-service track record of over 45 years, Chartek provides safety, durability and efficiency through proven, economical and easy-to-apply solutions meeting all project and customer requirements.



Chartek 1709 adds unique capabilities to our ANSI/UL1709 listed product offer to give you an unrivaled choice. Having covered millions of square meters over a period of 10 years, Chartek 1709 can be used with confidence for a wide range of applications and fire scenarios, including pool fires up to 4 hours, jet fires and vessel protection. Its low installed weight and excellent application properties make Chartek 1709 the ideal choice for modular construction or site application.



Find out more:

www.chartek.com | www.international-pc.com | pcmarketing.americas@akzonobel.com

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Epoxy Intumescent

PRODUCT DESCRIPTION

Chartek 2218 is a high performance, patented, boron free, modified epoxy intumescent fire protection solution.

The product is a high build, two pack material providing excellent durability and combined corrosion and fire protection.

Certified for structural fire protection by the Underwriters Laboratory in accordance with ANSI UL1709 for use on carbon steel and galvanized steel.

INTENDED USES

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

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

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

PRACTICAL INFORMATION FOR CHARTEK 2218

Gloss Level	Not applicable			
Volume Solids	100%			
Typical Thickness	Depends on protection required.			
Theoretical Coverage	1 kg of Chartek 2218 will provide 1 mm of fire protection to 0.9m ² (based on plural component application)			
Practical Coverage	Allow appropriate loss factors			
Density	1138 kg/m ³ (71 lb/ft ³) plural spray applied (ISO 1183:2004 Method A)			
Method of Application	Heated Plural Component Airless Spray			
Drying Time	Overcoating interval with self			
Temperature	Touch Dry	Hard Dry	<i>Minimum</i>	<i>Maximum</i>
-10°C (14°F)	5 hours	24 hours	5 hours	*
0°C (32°F)	2 hours	20 hours	2 hours	*
10°C (50°F)	2 hours	17 hours	2 hours	*
25°C (77°F)	60 minutes	7 hours	60 minutes	*
40°C (104°F)	60 minutes	6 hours	60 minutes	*

*Please consult International Paint for further information

REGULATORY DATA

Flash Point (Typical) Part A >100°C (212°F); Part B >100°C (212°F); Mixed >100°C (212°F)

VOC 0.02 lb/gal (3 g/lt) EPA Method 24
0 g/kg EU Solvent Emissions Directive (Council Directive 1999/13/EC)

See Product Characteristics section for further details

Epoxy Intumescent

SURFACE PREPARATION

Surface preparation and application should be carried out in accordance with the advice given in International Protective Coatings' Chartek Application Guidelines.

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.

Abrasive Blast Cleaning

Chartek 2218 is typically applied to surfaces which have been abrasive blast cleaned to a minimum standard of Sa2½ (ISO8501-1:2007) or SSPC-SP10 and suitably primed.

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 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 1part(s):1part(s) by weight
(For trowel application refer to the Chartek Application Guidelines).

Working Pot Life	10°C (50°F)	25°C (77°F)	40°C (104°F)
	25 minutes	25 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. Pot-life may be increased with solvent addition (5% maximum). 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 Guidelines.

Plural Component Airless Spray	Recommended and preferred	Heated plural equipment approved by International Paint. No thinners required
Airless Spray	Suitable	Recommended use minimum 68:1 modified airless spray unit, as qualified by International Protective Coatings. Typically thinned by up to 5% solvent by volume

Trowel Thinner	Suitable International GTA123	Typically thinned by up to 5% solvent Only for pre-mix and trowel application - consult Application Guidelines
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Cleaner International GTA822

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 GTA822. It is good working practice to periodically clean equipment during the course of the working day. Frequency of cleaning will depend upon amount used, 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 CHARACTERISTICS

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

Minimum Air Temperature	-10°C (14°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 2218 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 2218 with itself is as soon after the minimum overcoating interval has been achieved or before the coating has had any chance to become contaminated.

Mesh Application (if applicable)

If mesh reinforcement is required, Charlok or International Paint's HK-2 carbon composite mesh should be installed in accordance with specific fire design and as detailed in the Chartek Application Guidelines. For mesh requirements seek specific advice from International Protective Coatings. Details need to be addressed on a project specific basis for the acceptance of the Certifying Authority.

After Mesh Application

Continue to spray apply Chartek 2218 to bring up to the required film thickness

Equipment

Only equipment qualified by International Protective Coatings shall be used as detailed in the Chartek 2218 Application Manual or by the International Protective Coatings Technical Service Representative.

Applicator Qualification

Only companies in receipt of Qualified Applicator status from International Protective Coatings shall be used for Chartek 2218 application. Companies shall document that they comply with this requirement prior to work commencement.

The Chartek 2218 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 of between 80°-120°C (176°-248°F) a suitable thermal barrier, e.g. Intertherm 7050, should be used between the substrate and the Chartek 2218.

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 colour and normal manufacturing tolerances.

SYSTEMS COMPATIBILITY

Chartek 2218 is designed for application to correctly prepared substrates which have been suitably primed. The following primers are approved for use with Chartek 2218

Intergard 269	Interzinc 52
Intershield 300	
Interzinc 52/Intergard 269	

Generally Chartek 2218 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 2218:

Interfine 2080*	Intershield 300
Interthane 990	Interzone 954

* As regionally available.

Epoxy Intumescent

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 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
20 kg (44 lb) kit	10 kg (22 lb)	10 kg (22 lb)
40 kg (88 lb) kit	20 kg (44 lb)	20 kg (44 lb)

20 kg (44 lb) kit supplied as 1 drum Part A and 1 drum 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.

40 kg (88 lb) kit supplied as 1 full drum 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
20 kg (44 lb) kit	12.20 kg (26.84 lb)	12.20 kg (26.84 lb)
40 kg (88 lb) kit	22.20 kg (48.84 lb)	22.20 kg (48.84 lb)

STORAGE

Shelf Life	12 months minimum at 25°C (77°F). Should be stored indoors and out of direct sunlight. A temperature range of 1-30°C (34-86°F) must be maintained.
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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.

This Technical Data Sheet is available on our website at www.international-marine.com or www.international-pc.com, and should be the same as this document. Should there be any discrepancies between this document and the version of the Technical Data Sheet that appears on the website, then the version on the website will take precedence.

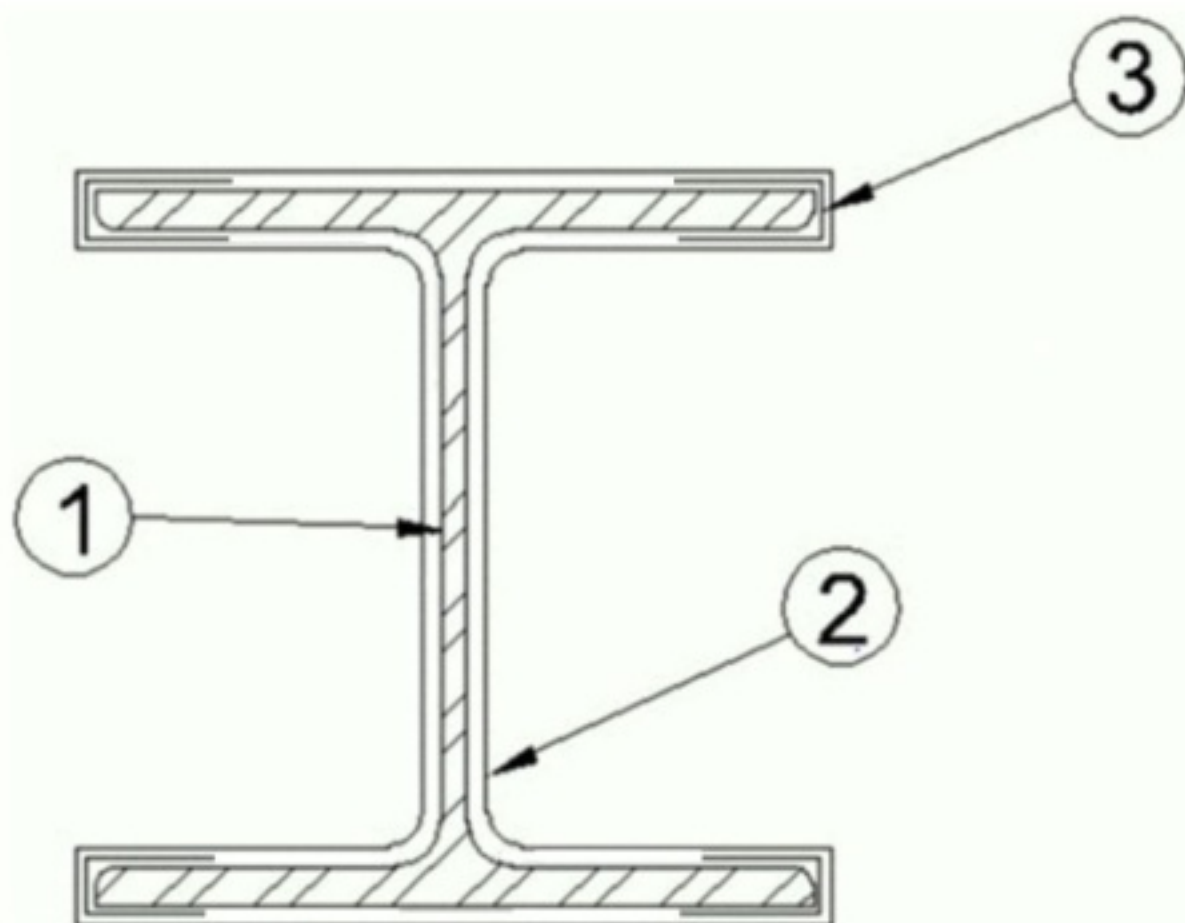
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[See General Information for Fire-resistance Ratings - ANSI/UL 1709](#)**Design No. XR646**

June 23, 2016

Ratings - 1, 1-1/2, 2, 2-1/2, 3, 3-1/2 and 4 Hr.

1. **Galvanized Steel Column** — Min. size W10x49. Hot-dipped galvanized steel per ASTM A123. The column surfaces shall be prepared in accordance with the manufacturer's recommendations for galvanized steel and then primed with 0.050 mm of an epoxy based primer material.

2. **Mastic and Intumescent Coatings*** — See table below for appropriate thicknesses to be applied over the primer coat. Two-component spray material applied in one or more coats as described in the manufacturer's product technical data.

Rating Hr	Min Thkns mm
1	5.05
1-1/2	6.85
2	8.89
2-1/2	11.30
3	13.55
3-1/2	15.53
4	17.51

INTERNATIONAL PAINT LTD — Type Chartek 2218

3. **Reinforcing Mesh** — Steel mesh, designated Type Charlok. The mesh is applied to the length of the column, butt jointed, prior to application of material, wrapped around the inner and outer faces of the flange toes, half the distance of toe to web.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.