

**PRODUCT DESCRIPTION**

Chartek 1620CSP is a unique intumescent material that provides combined hydrocarbon fire protection and insulation when exposed to cryogenic liquids.

A high build, solvent-free, two component epoxy, Chartek 1620CSP also provides excellent corrosion protection and blast resistance.

**INTENDED USES**

Optimised to mitigate against steel fracture caused by the release of cryogenic liquids such as LNG, Chartek 1620CSP also provides resistance to hydrocarbon pool and jet fires.

Suitable for all types of offshore cryogenic liquid handling facilities such as FLNGs and FSRUs, Chartek 1620CSP can be used on decks, structures, pipework and vessels.

**PRACTICAL INFORMATION FOR CHARTEK 1620CSP**

<b>Colour</b>	Buff			
<b>Gloss Level</b>	Not applicable			
<b>Volume Solids</b>	100%			
<b>Typical Thickness</b>	Depends on fire and CSP protection required.			
<b>Theoretical Coverage</b>	1 kg of Chartek 1620CSP will provide 1 mm of fire protection to 1.1 m <sup>2</sup> (based on plural component application)			
<b>Practical Coverage</b>	Allow appropriate loss factors			
<b>Density</b>	900 kg/m <sup>3</sup> (56.185 lb/ft <sup>3</sup> ) plural spray applied (ISO 1183:2004 Method A)			
<b>Method of Application</b>	Two component heated plural spray unit, approved modified single component airless spray unit or trowel applied (see Application section)			
<b>Drying Time</b>	Overcoating interval with self			
<b>Temperature</b>	<b>Touch Dry</b>	<b>Hard Dry</b>	<i>Minimum</i>	<i>Maximum</i>
15°C (59°F)	8 hours	18 hours	4 hours <sup>1</sup>	1 week
25°C (77°F)	5 hours	16 hours	3 hours <sup>1</sup>	1 week
40°C (104°F)	2 hours	6 hours	2 hours <sup>1</sup>	4 days

<sup>1</sup> 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**

<b>Flash Point (Typical)</b>	Part A >106°C (223°F); Part B >106°C (223°F); Mixed >106°C (223°F)		
<b>VOC</b>	0.00 lb/gal (0 g/lit)	EPA Method 24	
	1 g/kg	EU Solvent Emissions Directive (Council Directive 1999/13/EC)	
See Product Characteristics section for further details			

**SURFACE PREPARATION**

All surfaces to be coated should be clean, dry and free from contamination. Prior to application all surfaces should be assessed and treated in accordance with ISO 8504:2000.

**Abrasive Blast Cleaning**

Chartek 1620CSP should only be applied to steel surfaces prepared by abrasive blast cleaning to Sa2½ (ISO 8501-1:2007) or SSPC SP10. A sharp, angular surface profile of 50-75 microns (2-3 mils) is required.

**Primers**

For cryogenic spill protection it is important that the total coating system shows satisfactory insulation and fire performance. The preferred primer shall be an epoxy or zinc epoxy type (e.g. Intergard 269, Intershield 300 or Interzinc 52/Intergard 269). International Protective Coatings publishes a qualified primers list which should be consulted for thickness tolerances.

**Damaged / Repair Areas**

All areas requiring repair should ideally be blast cleaned to Sa2½ (ISO8501-1:2007) or SSPC-SP10. However, it is acceptable that areas less than one square metre in size can be power tool cleaned to SSPC-SP11 provided a clean, roughened surface is achieved. A profile of 50-75 microns (2-3 mils) must be maintained. A recommended primer can then be applied prior to Chartek 1620CSP application.

**APPLICATION**

<b>Mixing</b>	If applying Chartek 1620CSP by approved modified single component airless spray unit or trowel, it will first be necessary to thoroughly power mix a kit of Chartek 1620CSP. Individual components must have been stored for 24 hours at 20 - 30°C (68 - 86°F) and fully power agitated before mixing.	
<b>Mix Ratio</b>	Always mix full kits. (For trowel application refer to the Chartek Application Guidelines).	
<b>Working Pot Life</b>	15°C (59°F) 90 minutes	25°C (77°F) 50 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 approved modified single component airless spray, working pot life will be reduced in relation to the above figures. Refer to the Chartek Application Guidelines.	
<b>Plural Component Airless Spray</b>	Recommended and preferred	Heated plural equipment approved by International Paint
<b>Airless Spray</b>	Recommended - Small areas only	Recommended use minimum 68:1 approved modified single component airless spray unit (see Chartek Application Guidelines for more details), as qualified by International Protective Coatings. Typically thinned by up to 5% solvent
<b>Trowel</b>	Suitable - small areas only	A maximum of 5% solvent may be added
<b>Thinner</b>	International GTA123	Only for pre-mix and trowel application - consult Application Guidelines
<b>Cleaner</b>	International GTA007	
<b>Work Stoppages</b>	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.	
<b>Clean Up</b>	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 the dew point of surrounding air  
General: Surfaces must be clean, dry and free of contaminants immediately prior to coating.

**Application**

Chartek 1620CSP 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 1620CSP 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 1620CSP is to be overcoated with recommended topcoats, the following overcoating intervals will apply;

	Minimum	Maximum
10°C (50°F)	24 hours	7 days
25°C (77°F)	18 hours	7 days
40°C (104°F)	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 Guidelines. Specific fire scenarios, e.g. those containing a portion of the duration where jet fire is anticipated, may require specific meshing and coating thickness. Details need to be addressed on a project specific basis for the acceptance of the Certifying Authority, e.g. LR or DNV.

**After Mesh Application**

Continue to spray apply Chartek 1620CSP to bring up to the required film thickness

**Equipment**

Only equipment qualified by International Protective Coatings shall be used as detailed in the Chartek 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 1620CSP application. Companies shall document that they comply with this requirement prior to work commencement. The Chartek 1620CSP 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.

**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 1620CSP.

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 1620CSP is normally applied over a suitably primed substrate. Please contact International Protective Coatings for confirmation of suitability of selected primer.

Chartek 1620CSP shall be topcoated to meet owners' colour schemes and finish requirements.

Suitable topcoats are:

Interfine 629HS  
Interthane 990  
Interzone 954

**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](http://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 (44.1 lb) kit	14.2 kg (31.3 lb)	5.8 kg (12.8 lb)
50 kg (110.2 lb) kit	35.48 kg (78.2 lb)	14.52 kg (32.0 lb)

20 kg (44.1 lb) 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.  
 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 International Protective Coatings.

**SHIPPING WEIGHT (TYPICAL)**

Kit Size	Part A Weight	Part B Weight
20 kg (44.1 lb) kit	16.0 kg (35.2 lb)	6.4 kg (14.1 lb)
50 kg (110.2 lb) kit	39.1 kg (86.0 lb)	16.3 kg (36.0 lb)

**STORAGE**

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

**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 International Paint 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](http://www.international-marine.com) or [www.international-pc.com](http://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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