



CHARTEK 7 Structural Steel Application

Product Description

CHARTEK 7 epoxy intumescent fireproofing is the world's most reliable, most efficient passive fire protection system. It is a high performance, high build, solvent free, reinforced epoxy intumescent fireproofing coating.

CHARTEK 7 fireproofing delivers the maximum degree of thermal efficiency with a thinner, lighter coating – for faster, easier, less expensive installation.

CHARTEK 7 requires virtually no maintenance – even in toughest climatic conditions – and delivers years of dependable service.

CHARTEK's protective char acts as an insulating blanket, a thermal barrier to soundly protect structures from hydrocarbon fire's violent heat and destructive nature.

CHARTEK 7 has demonstrated its ability to endure pool fires, jet fires, and hose streams, but also to resist explosion and impact.

Featuring low density, low water absorption characteristics, and an easier application process, Chartek® 7 is the highest quality, cost efficient fire protection on the market today. Like previous generations of Chartek® 7, Chartek® 7 is tough, durable and virtually maintenance free. It is ideal for long term fire protection on offshore oil and gas production platforms, at refineries and chemical plants. And, what's more, it's halogen free – so in a fire, it does not generate hazardous chlorine-containing gas.

Applications

To protect steelwork (structural, divisional and vessels) in a hydrocarbon fire and to preserve functional integrity for a specified period of time.

Certification

- Structural steel (both I and hollow sections certificates from Lloyd's and DNV) Lloyd's and DNV structural and divisional certificates.
- Jet Fire tested.

HIGHLY DURABLE

- Meets the environmental exposure (weatherability) requirements of UL 1709 (USA)
- Tested to NORSOK M-501, weatherability and corrosion with excellent results
- Very low moisture absorption after long term submergence in salt water solution – topcoat reduces moisture absorption even further (lowest moisture absorption of any epoxy fireproofing Coatings – sponsored tests)
- Lap shear strength in excess of 2500psi
- Flexible, not affected by deflection of substrate for pre-erection applications.

REDUCED HAZARD IN FIRE ENVIRONMENT

- Toxicity index of 1.3 in Naval Engineering Standard 713 test
- HCN, CO and CO₂ generated in a fire lower than other available materials
- Contains no halogenated flame retardant
- Flame spread index of 25.0 and smoke generation index of 130.9 in ASTM E84 tests

LEADING THE WORLD IN SERVICE

The combination of technical expertise available to customers and Clients for Chartek fireproofing prior to and after installation, supported by the International Protective Coatings organization, means that we are able to provide an unrivalled service to our customers.

Manufacturing in two of our wholly owned factories and providing sales and logistical support from 44 of our wholly owned sales office worldwide, International offer the confort that dealing only with the worlds largest protective coatings company can.

TECHNICAL DATA

Property	Test Method	Value	Units
Spray applied density	Plural Pump	1000 (62.4)	Kg/m ³ (lb/ft ³)
Tensile strength	ASTM D638	12.8 (1850)	MPa (psi)
Tensile modulus	ASTM D638	1786 (259,000)	MPa (psi)
Compressive strength	ASTM D695	18.6 (2700)	MPa (psi)
Compressive modulus	ASTM D695	1172 (170,000)	MPa (psi)
Flexural strength	ASTM D790	22.8 (3300)	MPa (psi)
Flexural modulus	ASTM D790	1586 (230,000)	MPa (psi)
Lap shear strength	ASTM D1002	10.0 (1450)	MPa (psi)
Thermal conductivity at room temperature	Transient method	0.123 (1.45)	W/m ² C (Btu-in/hr ft ² F)
Coefficient of thermal expansion	ASTM E228	68 x 10 ⁻⁶ 38 x 10 ⁻⁶	Cm/cm ² C (in/in ² F)
Specific Heat at room temperature	ASTM 1269	1.17 (0.28)	J/g ² C (Btu/lb ² F)
Moisture Absorption	Total immersion in 5% salt solution @ room temperature for 76 days	3.3% non topcoated 1.4% topcoated	
Flame Spread	ASTM E84	25.0	
Smoke Generation	ASTM E84	130.9	
Toxicity Index	Naval Engineering Standard 713	1.3	
Hardness	Shore D	Typically 70	
Impact Strength / Inch of notch	ASTM D256	0.69 (0.10)	J/cm (ft-lb/inch)

