



**CRUPE**  
SIMPLY BETTER BUILDING

**02.**

**CRUPE  
PROTECT**

**INSULTHERM 600**

# 02.

# CRUPE PROTECT



CRUPE Protect replaces a number of traditional products in one product that is both easier to use and better for the environment. The reduction in the products required for the build means a faster building time and lower and more predictable budgets than most traditional builds.



**CRUPE PROTECT ALSO OFFERS SOME KEY ADVANTAGES OVER THE TRADITIONAL CEMENT AND GYPSUM PRODUCTS INCLUDING BETTER DRYING CHARACTERISTICS AND A LOWER ENVIRONMENTAL FOOTPRINT GIVEN A LARGER CONSTITUENCY OF GYPSUM IN OUR PRODUCTS (NOT CEMENT) AND IT COMPLETELY AVOIDS CHEMICAL BASED ADHESIVES IN ITS APPLICATION.**

CRUPE Protect is a revolutionary new building material that combines a unique mineral-based binding agent with a mortar based solution, including expanded polystyrene ('EPS') and/or perlite, to produce a building product with excellent thermal, fire rating, acoustic performance and structural properties.

CRUPE Protect delivers a monolithic structure of unparalleled strength and is far less energy intensive in application and cost. Building services such as air-conditioning or insulation needs are greatly reduced or avoided because of CRUPE Protect's enhanced thermal qualities, again reducing overall build and operating budgets as well as lowering carbon emissions.



# COST SAVINGS ARE SIGNIFICANT WHEN COMPARED TO THE SEVERAL MATERIALS AND FIXING APPLICATIONS REQUIRED OF CONVENTIONAL CLADDING SYSTEMS.

CRUPE Protect is suitable for both existing and new buildings constructed from concrete, brick, masonry concrete block and light steel

framing. It is a flexible, simple product that is revolutionising construction around the world.



## KEY BENEFITS

- > Certified and Rated around the world – A1 fire rated to 4+ hours
- > Significantly reduces building time (in some cases by up to 70%)
- > Significantly reduces building costs (in some cases by up to 50%)
- > Less energy intensive, more environmentally friendly, a better product
- > Requires less experienced skills on site to apply, saving time and money
- > Neutral PH properties – easy and safe handling on site results in a happier team
- > Ideal for use in areas with higher risk of earthquake, hurricane and humidity
- > Creates a Monolithic Structure which is both more efficient and safer

*'The neutral PH properties of CRUPE Protect makes for easier handling by the person applying the material on site as they do not require protective clothing and gloves that both restricts productivity and increases fatigue specially in hot and humid climates'*



Please contact us at:  
**CRUPE International Limited**  
Hauptstrasse 66, P.O. Box 186  
8832 Wollerau, Switzerland  
t: +41 44 786 0888 f: +41 44 786 0889  
e: [info@crupe.com](mailto:info@crupe.com)  
w: [www.crupe.com](http://www.crupe.com)



**CRUPE**  
SIMPLY BETTER BUILDING

# PRODUCT SPECIFICATION & CHARACTERISTICS

## 02. CRUPE PROTECT INSULTHERM 600

**CRUPE Protect Insultherm 600** is an insulation material which is sprayed onto a new or existing building in a single operation to provide a monolithic surface. It is a building product with an excellent fire rating combined with effective acoustic, thermal and structural performance.

### APPLICATION

Applied with a high volume mixer pump, CRUPE Protect Insultherm 600 is suitable for both existing and new buildings constructed from light steel/hot rolled steel framing, brick and masonry to reinforced concrete and timber.

### APPLICATION AREA

- > To fill the framing cavity of light steel structures
- > Onto existing or new external walls as additional insulation
- > Into internal wall cavities as a filler
- > Onto roof and floor surfaces as additional insulation

### PRODUCT PROPERTIES

An aqueous gypsum plaster base combined with cement is mixed with water and our CRUPE additive to create a relatively fluid composition which is sprayed using a pump. Whilst CRUPE Protect Insultherm 600 when mixed is fluid, it has sufficient viscosity so that it does not slump on contact which permits vertical layers of 75mm or greater to adhere during the spray application.

CRUPE Protect Insultherm 600 is supplied in both 20kg and 25kg bags depending on the region. The product is made up of a unique blend of calcined gypsum, hydraulic cement and sand which is combined with our patented CRUPE additive in the correct weight ratio. The chemical reaction occurs when the composition is mixed with water.

Hardening of the mixture takes about 60 minutes.

Control joints for CRUPE Protect Insultherm 600, due to negligible shrinkage, are not normally required. Where there is potential movement in the building structure or ground foundations that could transfer stresses to the CRUPE Protect Insultherm 600 layer joints may be required.

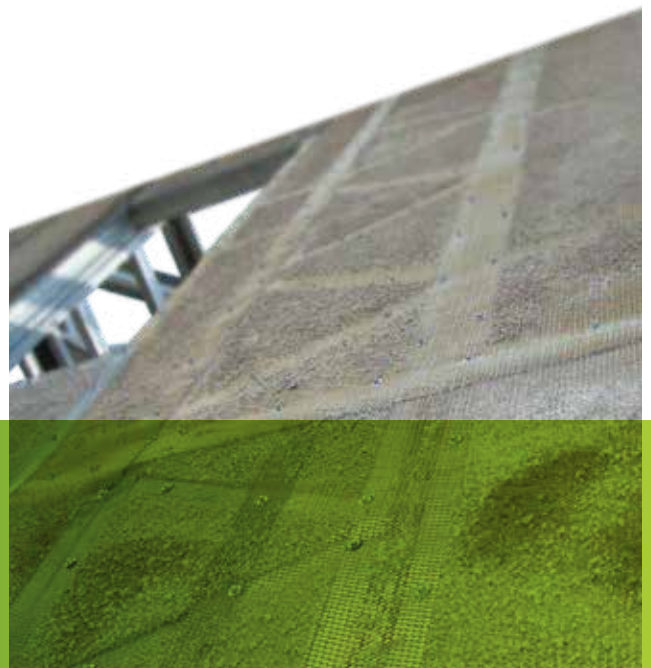
### PERFORMANCE AND KEY BENEFITS

CRUPE Protect Insultherm 600 is a highly effective material offering:

- > Excellent fire insulation
- > Incombustible properties with no smoke emissions
- > High permeability to water vapour
- > Monolithic coverage
- > Offers effective acoustic and thermal protection

**The CRUPE Protect Insultherm 600 Dry Mix** is a relatively low weight building material comprising of gypsum, cement and EPS foam beads (or recycled EPS) as an aggregate resulting in a density of 600kg/M3.

With polymer fibres blended into the Dry Mix for reinforcement CRUPE Protect Insultherm 600 has a high resistance to surface cracking, is very stable upon curing exhibiting imperceptible shrinkage and results in no edge curl when setting.



# PRODUCT SPECIFICATION & CHARACTERISTICS

# 02. CRUPE PROTECT INSULTHERM 600

## PRODUCT CHARACTERISTICS – SPANISH TEST RESULTS

 <b>CRUPE PROTECT INSULTHERM 600</b>			
Criteria	European/ISO Standards	Value	Unit
Density		600	kg/m <sup>3</sup>
μ-water Vapour	UNE-EN 1015-19:1999	11.84	MN.s/g
Compressive Strength 28 days	UNE-EN 13279-2	2.4	MPa
Reaction to Fire	UNE-EN 1364-1:2000	A1	
Water Absorption	UNE-EN ISO 140-18:2003	0.6	kg/m <sup>2</sup> min <sup>0.5</sup>
Acoustic	UNE-EN ISO 140-3:1995	39	Rw
80mm + 20mm CRUPE Finish	ISO 717-1:1996	39.1	R <sup>A</sup> dBA
Thermal Conductivity	UNE-EN 12667:2002	0.138	(W/mK)

## PRODUCT CHARACTERISTICS – CHILEAN TEST RESULTS

 <b>CRUPE PROTECT INSULTHERM 600</b>			
Criteria	Test Standard	Value	Unit
Density	90 days	796	kg/m <sup>3</sup>
μ-water Vapour	NCh2457.0f2001	8.17	MN.s/g
Compressive Strength 90 days	NCh1171/2.0f2001	1.87	MN.s/g
Thermal Conductivity	NCh851.0f2008	0.138	(W/mK)
Modulus of elasticity 90 days	ASTM C469/C469M-10	1.35	GPa

# GENERAL PRODUCT INFORMATION

Please make this information available wherever CRUPE is used. Our products are amongst the safest in the building industry, however general guidelines should always be applied.

For a full range of CRUPE products and additional documentation visit: [www.crupe.com](http://www.crupe.com)

## HANDLING & STORAGE

No special protective measures or hazardous goods protection are necessary when transporting CRUPE products. CRUPE products are generally stored in 25kg bags and need to be protected like any other cement based material – free from moisture and humidity. Store all CRUPE products off the ground in a protected, dry location.

CRUPE products do not require any special handling equipment as they are a mineral based material without any known side effects. For safe keeping CRUPE material should not be stored below 5 degrees or in temperatures in excess of 35 degrees.

- > **Avoid storing in direct sunlight.**
- > **The shelf life of CRUPE products if properly stored and sealed is 6 months.**

## HEALTH & SAFETY

When mixed, CRUPE products pose very low health risks to the operators and users of the products. However, prolonged contact may cause irritation and dermatitis. Care should be exercised when handling any dry mix as inhaled dust may result in respiratory irritation. It is recommended that when opening bags and at the mixing stage a respiratory face mask is used.

## PRECAUTIONS

Although contact with any CRUPE products is non-hazardous, caution still needs to be observed and site regulations followed during their use. As on any construction site, it is recommended that personnel should wear protective clothing, hand, head and eye protection in order to prevent accidental injury during loading of the mixer/pump, mixing preparation, spray application and any general use.

## SITE CONDITIONS

Do not apply when the air temperature is below 2 degrees or over 35 degrees. CRUPE must never be applied in freezing conditions where the substrate has likely been frozen.

Avoid spraying in very dry conditions as this can affect the reaction time and cause potential surface cracking. Always take into account the solar gain from direct sunlight and plan to avoid, where possible, spraying CRUPE products onto surfaces that are heated. If unavoidable, spraying clean water onto the surface immediately before applying CRUPE products is recommended. When the substrate surfaces are sustaining direct sunlight, follow the recommendations on the surface preparation.

- > **Avoid spraying in direct sunlight.**

## SITE PREPARATION

Surfaces such as brick or concrete may need to be prepared by scrubbling or removing old, loose render. There isn't a need to apply an expensive bonding product for better results.

You should always check that the surface is not hot due to direct sunlight as this may dehydrate the material too rapidly. If hot and dry, apply water.

When spraying onto existing surfaces, the surface must be free of all bond-inhibiting materials, including dirt, grease, formwork release oils and any other foreign matter. Any loose or damaged material must be totally removed and or repaired.

When spraying onto a light steel frame with mesh attached as per instructions make sure all mesh is thoroughly attached, check that all mesh goes to a width of 10mm of an intersection or door/window jamb. If you are spraying close to objects that need protecting from over spray, this is the time to do so.



CRUPE International Limited  
Hauptstrasse 66  
8832 Wollerau  
Switzerland  
T: +41 44 786 0888  
F: +41 44 786 0889  
E: [info@crupe.com](mailto:info@crupe.com)