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Technical Data Sheet 602	**Revision :** 1
	Date : 25/04/2003
	Revision date : 18/10/2007

SPRAYED LIMPET VERMICULITE

FABRICANT :

THERMICA LIMITED
THEMEWORK HOUSE
VULCAN STREET
CLOUGH ROAD
HULL HU6 7PS

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1. DESCRIPTION

Sprayed Limpet Vermiculite (SLV) is a tough , hard, highly stable, passive fire protection coating applied to structural steel by spraying.
SLV consists of a factory produced blend of exfoliated vermiculite, cementitious binders and rheological and mix dispersing agents supplied as a dry mix to which clean water is added on site. It does not rely on any form of expansion, foaming or chemical reaction to impart its fire protection properties.

All Limpet products are asbestos free.
Two products are available:
SLV INTERNAL GRADE
-a robust, economic coating for internal use
SLV EXTERNAL GRADE
-a tough coating for external use, resistant to a variety of climatic conditions

2. APPLICATION

Both grades of SLV are designed for installation by spray techniques. They should only be installed by the trained applicators of an experienced specialist contractor operating in accordance with the Thermica SLV System Manual.
SLV can be applied to bare steel surfaces in thicknesses of up to 30mm at a time. Where thicknesses greater than 30mm are required, the material must be applied in two coats.

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The surface of the steel should be dry and free of dirt, oil, loose mill scale, flaking paint and loose rust. If required, existing painted surfaces should be treated with a coating of Limpet Primer.

As cementitious vermiculite sprays can be damaged by frost for up to 24 hours after application, spraying should not take place at temperatures lower than 4°C or if such low temperatures are expected.

3. DENSITY

Nominal dry density:

	Density (kg/m³)
SLV Internal	350 – 400
SLV External	725 - 775

4. COVERAGE

Nominal usage at 25mm thick :

	m²/sack	m²/tonne
SLV Internal	1.33	106
SLV External	1.07	54

5. THERMAL CONDUCTIVITY

When tested in accordance with BS 874, 1973, at a mean temperature of 10°C, the following values are obtained :

	Thermal Conductivity (W/mK)
SLV Internal	0.09
SLV External	0.15

6. STANDARDS

All applications must be carried out in accordance with the current issue of the Thermica SLV System Manual and should follow the guidance found in BS 8202: Part 1 1987, Code of practice for the selection and installation of sprayed mineral coatings.

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7. FINISHING

When sprayed, both grades of SLV have an attractive textured surface. No further treatment is necessary for internal applications, but for permanent external use a water repellency treatment and/or a protective paint coating is required.

8. PACKAGING

SLV products are supplied in multi-walled, polythene lined, kraft paper sacks. Sacks are colour coded, green for the Internal grade, red for the External grade. They are normally shrink wrapped on pallets :

	Weight/sack (kg)	Sacks/pallet	Weight/pallet (kg)
SLV Internal	25 or 30	40 or 35	1000 or 1050
SLV External	25 or 30	40 or 35	1000 or 1050

9. FIRE PERFORMANCE

As applied, both grades of SLV are rated "Non-combustible" to BS 476 Part 4 : 1970 and comply with the performance requirements of "Class 0" as defined in Building Regulations. Both grades have been fully tested on structural steel beams and columns for up to 4 hours fire resistance in accordance with BS 476 Part 21 : 1987. The thickness of fire protection material required for a given period of fire resistance is dependent upon the surface area of the steel member exposed to fire and its equivalent cross sectional area, that is, the Hp/A value for the section.
Information on required thicknesses is given below for both products. More detailed information for specific steel sizes is available on request.

Minimum thickness (mm) required to confer stated fire resistance to structural steel (550°C failure temperature):

Internal Grade

Hp/A (m^{-1})	Fire Resistance (hours)					
up to	0.5	1.0	1.5	2.0	3.0	4.0
30	10	10	11	14	21	27
50	10	10	17	19	28	37
70	10	12	17	22	33	43
90	10	13	19	24	36	48
110	10	14	20	26	39	51
130	10	14	21	28	41	54
150	10	15	22	29	43	56
170	10	15	23	30	44	58
190	10	16	23	30	45	60
210	10	16	24	31	46	61
230	10	17	24	32	47	62
250	10	17	24	32	47	63
270	10	17	25	33	48	64
290	10	17	25	33	49	65
310	10	17	25	33	49	65

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External Grade

Hp/A (m^{-1})	Fire Resistance (hours)					
up to	0.5	1.0	1.5	2.0	3.0	4.0
30	10	10	11	14	19	24
50	10	11	14	18	25	32
70	10	12	16	20	28	37
90	10	14	18	22	31	40
110	10	14	19	24	33	42
130	10	15	20	25	35	44
150	11	16	21	26	36	46
170	11	16	21	26	37	47
190	11	16	22	27	38	48
210	11	17	22	27	38	49
230	11	17	22	28	39	50
250	12	17	23	28	39	50
270	12	17	23	29	40	51
290	12	17	23	29	40	51
310	12	18	23	29	40	52

10. PRICE UNIT

Per tonne
See price list

11. TECHNICAL ADVICE

A technical advisory service is available to discuss any potential application of our products. Please contact +44(0)1482 3487 71 (Thermica UK) or +32(0)69 77 83 20 (Nestaan Belgium).