

# Stenca

WE ARE FULL OF ENERGY

*optimal solutions*



## STENCA HT PIPE

Quality Insulation made of calcium silicate

COLD HEAT FIRE INSULATION  
ACOUSTICS PROJECTING

[www.stenca.com](http://www.stenca.com)



## WELCOME TO STENCA SOLUTIONS ApS - Global focus with local service

Stenca Solutions ApS offers optimal solutions for the offshore, marine, refineries and cogeneration industry.

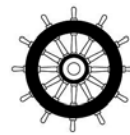
Worldwide Stenca Solutions ApS provides professional assistance in insulation, outfitting, and fire protection equipment for oil rigs, ships, onshore terminals and FPSOs.

Aalborg, Denmark is the headquarter of Stenca Solutions ApS. Our agents are located in Vietnam, Singapore, Korea, Spain, Nigeria and China.

We are very aware of the developments in the offshore and marine industry, and we are contributing to development and innovation of new products in these areas.

We work closely with our partners and suppliers which ensures our customers a wide range of services regarding our heat, cold, sound insulation and fire protection equipment.

We strive to engage in long term relationships and having a large group of satisfied customers. Satisfied customers are our greatest asset - good and fast service is essential for us.



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## STENCA HT PIPE INSULATION

The Stenca HT Pipe system provides an exceptional and very high quality standard for insulation of hot process applications, into all areas where fire protection or personal protection is demanded.

Insulates and reduces noise significantly with only one layer of 40 mm insulation, which means less weight and more space. The density of the insulation is only 245 kg/m<sup>3</sup>.

This fine quality product is made of non-combustible calcium silicate, which upper limit of temperature is 1000 °C or 1832 °F.

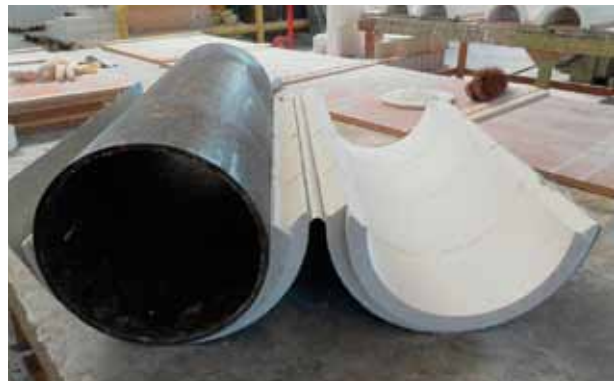
The product system consist of prefabricated pipe/bend insulation shells produced in all kinds of pipe dimen-

sions, prefabricated plates for tanks and vessels, as well as prefabricated boxes for flanges and valves.

Environmentally friendly insulation manufactured from a unique blend of mineral components, which does not contain any toxic ingredients, asbestos, formaldehyde or ammonia. Furthermore the calcium silicate is PH-neutral.

The insulation shells are pre-coated with an anti static silicone coated glass fibre fabric, which is waterproof and UV resistant.

There can be saved a lot of time, working hours and last but not least money, because cladding with steel afterwards is unnecessary.



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## DATA OF STENCA HT PIPE SYSTEM

### Facing

Factory applied UV and weather resistant silicone coated glass fabric type SCF/6 (Black). The core material is composed of calcium silicate type PROMASIL 1000.

### Density

PROMASIL 1000 has a density of 245 kg/m<sup>3</sup>. The glass fabric with silicone coating has a density of 600 gr./m<sup>2</sup>. The total thickness is approximately 44 mm.

### Assembling

With tong and groove to ensure a waterproof installation of the pipe sections. To seal the sections use Stenca Fire Seal; a special developed seal/adhesive.

### Acoustics

Can improve the level of environmental noise considerably. If a higher standard of acoustic insulation is necessary - please see the acoustic section.

### Handling and storage

Easy to cut to any shape, bend, t-piece, reduction etc. with an ordinary saw or knife. It is much easier and faster to install, than e.g. cellular glass and stone glass with steel cover. High compressive strength - has a non-slip surface, can handle pressure and is able to withstand foot traffic.

The items should be stored dry and clean before use. After installation of the pipe sections wipe them off with a moist cloth.

### Maintenance

Do not need maintenance after installation. Can be moved for inspection and reused. Does not wear down the pipes, on which they are installed.

### Health and safety

By installment and cutting there are no release of any dangerous or harmful particles in the air, which can damage the respiratory, mucous membranes and skin of the workers. But because some dust will occur, we still recommend to wear a mask. A safety data sheet is available and can be replied by Stenca Solutions ApS.

### Dimensions

Additional pipe dimensions can be carried out according to order - see technical data.

### Bends

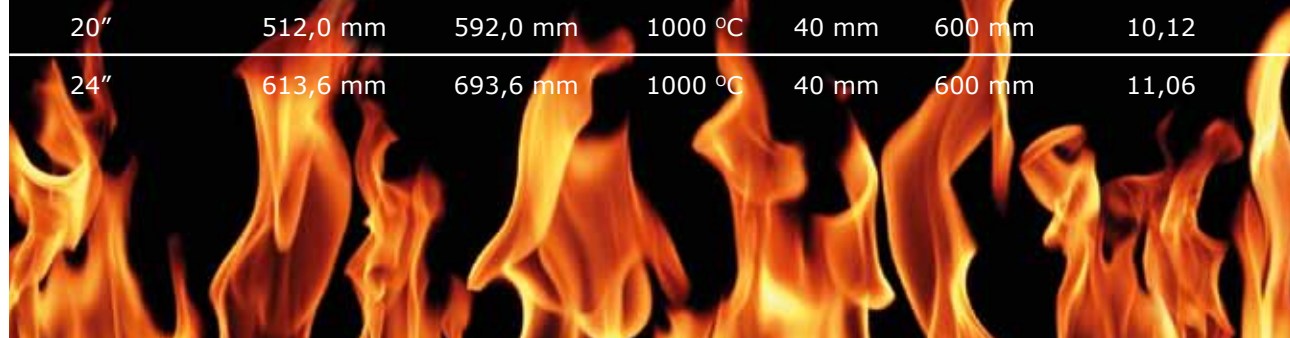
As standard the Stenca HT Pipe system comes with 90 degree bends. However, we can provide you with different angles according to your request.



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## STANDARD PRE-FORMED STENCA HT PIPE WITH SILICONE COATED GLASS FABRIC

Pipe section dimension	Inside dimension (D)	Outer dimension (A)	*Heat-resistance maximum	Insulation thickness	Section Length (L)	Weight in kg/pc
1/2"	16,0 mm	96,0 mm	1000 °C	40 mm	600 mm	1,13
3/4"	28,9 mm	108,9 mm	1000 °C	40 mm	600 mm	1,24
1"	35,7 mm	115,7 mm	1000 °C	40 mm	600 mm	1,37
1 1/2"	50,3 mm	130,3 mm	1000 °C	40 mm	600 mm	1,63
2"	62,3 mm	142,3 mm	1000 °C	40 mm	600 mm	1,85
3"	90,9 mm	170,9 mm	1000 °C	40 mm	600 mm	2,38
4"	116,3 mm	196,3 mm	1000 °C	40 mm	600 mm	2,85
5"	146,0 mm	226,0 mm	1000 °C	40 mm	600 mm	3,34
6"	170,3 mm	250,3 mm	1000 °C	40 mm	600 mm	3,84
8"	223,1 mm	303,1 mm	1000 °C	40 mm	600 mm	4,78
10"	277,0 mm	357,0 mm	1000 °C	40 mm	600 mm	5,78
12"	325,9 mm	405,9 mm	1000 °C	40 mm	600 mm	6,72
14"	359,0 mm	439,0 mm	1000 °C	40 mm	600 mm	7,82
16"	410,4 mm	490,4 mm	1000 °C	40 mm	600 mm	8,24
18"	461,2 mm	541,2 mm	1000 °C	40 mm	600 mm	9,18
20"	512,0 mm	592,0 mm	1000 °C	40 mm	600 mm	10,12
24"	613,6 mm	693,6 mm	1000 °C	40 mm	600 mm	11,06



\* The heat-resistance temperature can periodically go up to 1050 °C without problems.

Other dimensions can be delivered after special request.





## SURFACE TEMPERATURES AT DIFFERENT THERMAL SITUATIONS

Temperature	100 °C		200 °C		300 °C		400 °C		500 °C		600 °C		700 °C	
	HF	SF	HF	SF	HF	SF	HF	SF	HF	SF	HF	SF	HF	SF
Layer thickness	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C	W/m <sup>2</sup>	°C
PROMASIL 1000														
30 mm	131	34,5	320	51,1	533	67,4	771	83,6	1034	99,5	1321	115,3	1634	131,0
35 mm	115	32,9	280	47,8	465	62,5	672	77,1	900	91,6	1150	106,1	1420	120,5
40 mm	102	31,7	248	45,2	413	58,5	596	71,9	798	85,3	1018	98,6	1256	111,9
45 mm	92	30,6	224	43,0	372	55,3	536	67,6	716	80,0	913	92,4	1126	104,8
50 mm	84	29,8	203	41,2	338	52,6	486	64,1	650	75,6	828	87,2	1021	98,8
55 mm	77	29,1	187	39,7	309	50,3	416	61,0	590	71,8	758	82,8	934	93,6
60 mm	71	28,4	172	38,4	286	48,3	411	58,4	549	68,6	699	78,8	861	89,2

Assumption:

- 1) Thermal situations are considered to be stationary
- 2) No wind loads to the element
- 3) A single layer element of PROMASIL 1000
- 4) Ambient temperature 20 °C

HF=Heat Flow  
SF=Surface Temperature



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## GRADE OF CORE MATERIAL OF STENCA HT PIPE PROMASIL 1000

<b>Maximum service temperature</b>		1000 °C
<b>Bulk density, dry</b>		245 m <sup>3</sup>
<b>Compressive strength</b>	(EN 1094-5: 1955)	1,3 MPa
<b>Modulus of rupture</b>	(EN 993-6: 1955)	0,6 MPa
<b>Coefficient of reversible thermal expansion</b>	(BS 1902: section 5.3: 1990) @20 °C-750 °C (68 °F-138 °F)	5.5x10 <sup>-6</sup> m/(mK)
<b>Coefficient of hygric expansion</b>	(DTI report) @23 °C 50% RH to 23 °C 10% RH	4.0x10 <sup>-3</sup> mm/(m%RH)
<b>Coefficient of hygric contraction</b>	(DTI report) @23 °C 50% RH to 23 °C 100% RH	0 mm/(m%RH)
<b>Sound reduction index</b>		Thickness 19 mm 26 dB Thickness 38 mm 29 dB Thickness 60 mm 31 dB
<b>Thermal conductivity</b>	(ASTM C-182)	Mean temp. 20 °C 0,04 W/(mxK) Mean temp. 200 °C 0,07 W/(mxK) Mean temp. 400 °C 0,10 W/(mxK) Mean temp. 600 °C 0,14 W/(mxK) Mean temp. 800 °C 0,17 W/(mxK)
<b>Chemical analysis, typical</b>	Silica Calcium oxide Loss on ignition 1025 °C (1877 °F)	47% SiO <sub>2</sub> 45% CaO 6% LOI
<b>Water content</b>		2,5%
<b>Colour</b>		White
<b>Non combustibel</b>		Yes

Material safety data sheet, certification, test and reports are available on request.

Certified by Det Norske Veritas (DNV) and approved according to NORSOK.



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C O L D   H E A T   F I R E  
I N S U L A T I O N  
A C O U S T I C S   P R O J E C T I N G  
A D V I S I N G

D E N M A R K

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