

### Description

It is a refractory insulation plate made of exfoliated vermiculita and a special inorganic binder. It is intended for use as a backup insulation and/or direct contact with flame in various furnaces and high temperature industrial processes. The material does not contain asbestos, glass fibres and mineral fibres.

Trademark		Grenamat HTI 375	Grenamat HTI 400	Grenamat HTI 500	Grenamat HTI 600	Grenamat HTI 750	Grenamat HTI 850	Grenamat HTI 1050
Basic dimension	mm	600 x 800, 610 x 1000						600 x 800
	in	23.6 x 31.5, 24.0 x 39,37						23.6 x 31.5
Bulk density (tol. ±10%) EN 1094-4	kg/m <sup>3</sup>	375	400	500	600	750	850	1050
	lb/ft <sup>3</sup>	23,5	25	31	37	47	53	65.6
Thickness	mm	20-100	20-100	20-100	15-100	8-50	8-30	12-30
	in	0.79-3.94	0.79-3.94	0.79-3.94	0.59-3.94	0.31-1.97	0.31-1.18	0.46-1.18
Porosity EN 1094-4	%	84	84	81.8	79	75.5	69.1	64
Thickness tolerance EN 823	mm	±1,0						
	in	±0.04						
Length and width tolerances EN 822	mm	±5,0						
	in	±0.2						
Perpendicularity tolerance EN 822	mm/m	1,5						
	in/ft	0.02						
Flexural strength EN 993-6	N/mm <sup>2</sup>	≥0,4	≥0,4	≥0,8	≥2,0	≥2,5	≥3,0	≥4,5
	PSI	≥0,53	≥0,53	≥116	≥290	≥363	≥435	≥580
Compressive strength EN 826	N/mm <sup>2</sup>	≥1,9	≥1,9	≥2,7	≥4,3	≥4,7	≥5,0	≥8,0
	PSI	≥275	≥275	≥392	≥624	≥682	≥725	≥1160
Moisture content in factory EN 322	%	≤2,5						
Reaction to fire EN 13501-1		A1, ignifuga						
Classification temperature EN 1094-6	°C	1100			1150			
	°F	2102			2102			
Thermal expansion	x10 <sup>-6</sup> /K	7,5						
	x10 <sup>-6</sup> /°F	1.00						
Linear shrinkage after 12 hours at 1000 ° C (1832 ° F) EN 1094-6	%	1,06						
Specific heat EN 821-3	kJ/kg·K	0,97						1,1
	BTU/lb·°F	0.232						0,263

Thermal conductivity									
200 °C	ASTM C-201	W/mK	0,15	0,15	0,16	0,18	0,20	0,21	0,23
400 °C			0,17	0,17	0,18	0,20	0,21	0,22	0,24
600 °C			0,19	0,19	0,20	0,21	0,22	0,23	0,25
800 °C			0,21	0,21	0,22	0,22	0,23	0,24	0,26
1 000 °C			0,24	0,24	0,24	0,25	0,25	0,26	0,27
Chemical composition			%	SiO <sub>2</sub> (46,48), Al <sub>2</sub> O <sub>3</sub> (11,43), TiO <sub>2</sub> (0,93), Fe <sub>2</sub> O <sub>3</sub> (6,13), CaO (1,12), MgO (19,90), Na <sub>2</sub> O (0,75), K <sub>2</sub> O (12,76)					
392 °F	BTU/hr-ft-F	BTU/hr-ft-F	1,04	1,04	1,11	1,25	1,25	1,39	1,46
752 °F			1,18	1,18	1,25	1,39	1,39	1,45	1,53
1 112 °F			1,32	1,32	1,39	1,45	1,45	1,53	1,60
1 472 °F			1,45	1,45	1,53	1,53	1,53	1,59	1,66
1 832 °F			1,66	1,66	1,66	1,73	1,73	1,73	1,80

### Storage, handling and processing

Store in areas with a temperature above 5 ° C and a relative humidity of 65%. The material must be protected from direct weather. It is recommended to store the boards on the same pallet or on a sufficiently hard surface to prevent their deformation.

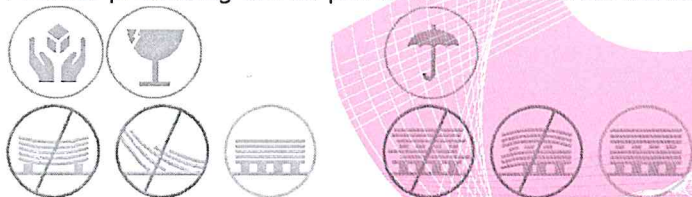
Pallet dimensions:

- format 600x800 - 810x1210 mm (2 columns); Maximum height 1500 mm (including pallet)
- format 610x1000 - 1010x1230 mm (2 columns); Maximum height 1500 mm (including pallet)

It is recommended to process the boards at a temperature of 15 - 25 ° C and a relative humidity of 65%.

Without proper treatment, this material should not be used in outdoor applications and in environments with relative humidity higher than 65%. When installing the board, it is necessary to prevent condensation of water vapor on the surface of the material and to protect it from direct contact with water.

Material processing can be performed with common woodworking tools.



### REACH

The manufacturer Grena, as, Veselí nad Lužnicí declares that the above product does not contain any hazardous substances related to the list of SVHC (substances of very high concern) published by the European Chemicals Agency (ECHA) in its list website

### DECLARATION OF HEALTH

The manufacturer Grena a.s., Veselí nad Lužnicí declares that the product does not contain mineral fibers, does not contain asbestos and organic components.

The manufacturer Grena as, Veselí nad Lužnicí declares that Grenamat HTI boards are objects, which means that they are covered by the current wording of Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals, as amended by Regulation (EC) No 987/2008 and Regulation (EU) No 453/2010 is exempted from registration and therefore the obligation to issue safety data sheets.



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Our technical consultants are always ready to answer all your questions and advise you on whether the product application is according to your needs. The information in this sheet is based on practical experience and our own tests and reflects our current state of knowledge. They serve as information and do not constitute any warranty as to the properties of the product or its suitability for specific applications. See for yourself whether our product is suitable for your purposes.

Date: 2021-03-31



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