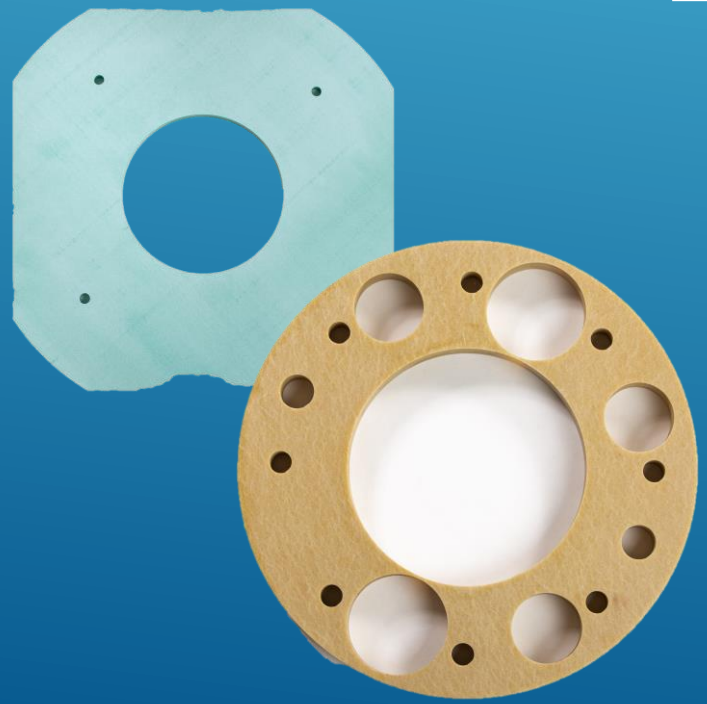
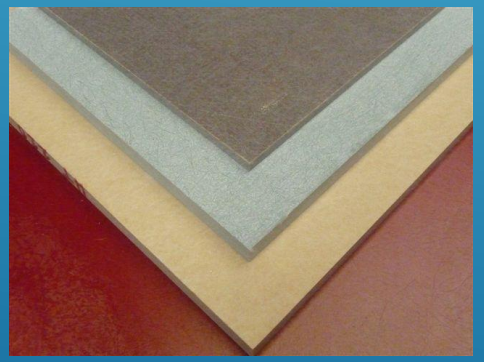
THERMALLY INSULATING PANEL





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High-strength, temperature resistant insulation made from glass fibre reinforced composite materials

They play a very important role in accurate temperature controls and energy conservation.

They are employed wherever thermal separation is required for operational and/or economic reasonsbetween components in installations..

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THESE ALL OFFER THE FOLLOWING SPECIAL CHARACTERISTICS:

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GLASTHERM HT 200	GLASTHERM HT 220	GLASTHERM HT 250 M
❖ max. continuous operating temperature 200°C ❖ measurements: 1255x2455 mm 918x1828 mm	❖ max. continuous operating temperature 220°C ❖ measurements: 1220x2440 mm 1000x1900 mm	❖ max. continuous operating temperature 250°C ❖ comperessive strength 445 Mpa ❖ measurements: 1100x2000 mm 1100x3000 mm
GLASTHERM HT 250 HQ	GLASTHERM HT 300	GLASTHERM HT 500
❖ max. continuous operating temperature 250°C ❖ compressive strength 510 Mpa ❖ measurements: 1120x2000 mm 1120x3000 mm	❖ max. continuous operating temperature 300°C ❖ measurements: 1070x1240 mm 1240x2800 mm	❖ max. continuous operating temperature 500°C ❖ measurements: 1000x1200 mm

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			Glastherm® HT LC	Glastherm® HT 200	Glastherm® HT 220	Glastherm® HT 250M	Glastherm® HT 250HQ	Glastherm® HT 300	Glastherm® HT 500
	Test method	Unit	Guideline value	Guideline value	Guideline value	Guideline value	Guideline value	Guideline value	Guideline value
Mechanical properties									
Density	ISO 1183	g / cm3	1,5	1,9	1,85	2,00	2,00	1,90	2,15
Flexural strength ⊥	ISO 178	MPa	170	200	360	300	600	120	165
Modulus of elasticity in flexion ⊥	ISO 178	MPa	10000	12000	18000	22000	30000	15000	-
Compressive strength 1) ⊥	ISO 604	MPa	300	320	500	600	700	330	400
Compressive strength 1) ⊥ +200°C	ISO 604	MPa	90	230	360	445	510	280	250
Tensile strength II	ISO 527	MPa	-	120	280	250	400	-	150
Impact strength ⊥ (Charpy)	ISO 179	kJ / m2	80	100	150	150	300	-	-
Splitting force II	DIN 53463	N	-	2200	4000	5000	-	-	-
Thermal properties									
Thermal conductivity 2) ⊥		W / (m * K)	0,18	≈ 0,3	≈ 0,25	≈ 0,23	≈ 0,27	≈ 0,28	≈ 0,25
Coefficient of linear expansion II	TMA (Mettler)	10-6 x K-1	≈ 20	≈ 20	≈ 10 - 15	10 - 15	≈ 10 - 15	≈ 10 - 15	≈ 10
Max. continuous operating temperature		°C	200	200	220	250	250	300	500

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DELTHERM 68330 (HT 200)	DELTHERM 68890 (HT 220)	DELTHERM 68990 (HT 250M)
❖ maximum heat resistance (for short periods) 200°C ❖ measurements: 1000x2000 mm	❖ maximum heat resistance (for short periods) 280°C ❖ measurements: 1335x2350 mm 1335x2950 mm	❖ maximum heat resistance (for short periods) 300°C ❖ measurements: 1335x2950 mm
CETHERM 65100	**Mica 41130**	**Mica 41140**
❖ maximum heat resistance (for short periods) 900°C ❖ measurements: 910x1220 mm	❖ maximum heat resistance (for short periods) 900°C ❖ measurements: 1000x1200 mm	❖ maximum heat resistance (for short periods) 700°C ❖ measurements: 1000x1200 mm

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			Deltherm 68330	Deltherm 68990	Deltherm MT 68110	Lightherm 68880	Deltherm 68890	Cetherm 65100	Mica 41130	Mica 41140
	Test Method	Jednotka	Value	Value	Value	Value	Value	Value	Value	Value
Physical Properties										
Density	ISO 1183 (Method A)	g / cm3	$1,9^{\pm0,1}$	$1,9^{\pm0,1}$	$1,9^{\pm0,1}$	$1,4^{\pm0,1}$	$1,9^{\pm0,1}$	$1,75^{\pm0,1}$	$2,15^{\pm0,1}$	$2,15^{\pm0,1}$
Water absorption (24h 23°C)	ISO 62 (Method 1)	%	0,1	0,08	0,1	0,15	0,08	15	0,15	0,15
Hořlavost	UL 94		x	x	x	x	x	x	V-0	V-0
Thermal Properties										
Maximum heat resistance (for short periods)		°C	200	300	200	240	280	900	900	700
Heat resistance		°C	180	240	180	200	240	500	700	500
Coefficient of linear expansion //	VSM77110	K^{-1}	20.10^{-6}	15.10^{-6}	20.10^{-6}	x	15	10.10^{-6}	10	x
Coefficient of linear expansion //		$1,0^{-6}/K$	x	x	x	x	x	x	10	10
Thermal conductivity	IEC 60893	W/m.K	0,27	0,3	0,27	0,15	0,24	0,40	0,18	0,18
Electrical Properties										
Flatwise Electric strength	IEC 60243-1	kV/mm	7	x	x	x	14	x	21	21
Flatwise Electric strength, 90° in oil	IEC 60243-1	kV/mm	x	14	x	x	x	x	x	x
⊥ Electric strength (step by step , in oil at 90°C)	IEC 60243-1	kV/mm	x	x	x	x	x	3	x	x
Mechanical Properties										
Flexural strength at 23°C, flatwise	ISO 178	MPa	160	420	130	250	420	x	100	170
Flexural strength at 155°C, flatwise	ISO 178	MPa	100	x	65	x	x	x	70	110
Flexural strength at 200°C, flatwise	ISO 178	MPa	50	x	45	x	x	x	x	x
Tensile strength at 23°C, edgewise	ISO 178	Mpa	x	x	x	x	x	x	110	150
Flatwise compressive strength, at 23°C	ISO 604	MPa	420	700	360	300	590	x	250	400
Flatwise compressive strength, at 155°C	ISO 604	MPa	200	500	140	x	450	x	140	250
Flatwise compressive strength, at 200°C	ISO 604	MPa	120	430	90	120	370	x	x	x
Flatwise compressive strength, at 250°C	ISO 604	MPa	x	350	x	x	x	x	x	x
Flexural strength at 23°C, ⊥	ISO 178	MPa	x	x	x	x	x	32	x	x
Compressive strength at 23°C, ⊥	ISO 604	MPa	x	x	x	x	x	115	x	x
Compressive strength at 200°C, ⊥	ISO 604	MPa	x	x	x	x	x	90	x	x

IF YOU HAVE ANY FURTHER QUESTIONS, DON´T HESITATE TO CONTACT:

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