



## TECHNICAL DATA

# PVC Foam | Divinycell H

### High performance PVC core material

Divinycell H combines excellent mechanical properties with low weight, making it one of the most widely used structural core materials. Its PVC chemical structure delivers unique features and durability across a broad range of applications. With a proven track record in marine, land transportation, wind energy, infrastructure, and industrial markets including defence, Divinycell H benchmark PVC foam core for structural sandwich composites and buoyancy applications.

Divinycell H is ideal for applications subject to fatigue, slamming or impact loads. Other key features of Divinycell H include consistent high quality, excellent adhesion/peel strength, excellent chemical resistance, low water absorption and good thermal/acoustic insulation. Divinycell H is compatible with virtually all commonly used resin and manufacturing systems. Divinycell PVC foams also feature very low resin uptake, enabling weight and cost saving.

### Mechanical properties

Property	Test Procedure	Unit		H45	H60	H80	H100	H130	H160	H200	H250
Compressive Strength <sup>1</sup>	ASTM D 1621	MPa	Nominal	0.6	0.9	1.4	2.0	3.0	3.4	5.4	7.2
			Minimum	0.5	0.7	1.15	1.65	2.4	2.8	4.5	6.1
Compressive Modulus <sup>1</sup>	ASTM D1621-B-73	MPa	Nominal	50	70	90	135	170	200	310	400
			Minimum	45	60	80	115	145	175	265	350
Tensile Strength <sup>1</sup>	ASTM D 1623	MPa	Nominal	1.4	1.8	2.5	3.5	4.8	5.4	7.1	9.2
			Minimum	1.1	1.5	2.2	2.5	3.5	4.0	6.3	8.0
Tensile Modulus <sup>1</sup>	ASTM D 1623	MPa	Nominal	55	75	95	130	175	205	250	320
			Minimum	45	57	85	105	135	160	210	260
Shear Strength	ASTM C 273	MPa	Nominal	0.56	0.76	1.15	1.6	2.2	2.6	3.5	4.5
			Minimum	0.46	0.63	0.95	1.4	1.9	2.2	3.2	3.9
Shear Modulus	ASTM C 273	MPa	Nominal	15	20	27	35	50	60	73	97
			Minimum	12	16	23	28	40	50	65	81
Shear Strain	ASTM C 273	%	Nominal	12	20	30	40	40	40	40	45
Density	ISO 845	kg/m <sup>3</sup>	Nominal	48	60	80	100	130	160	200	250

All values measured at +23°C

1. Properties measured perpendicular to the plane.

Nominal value is an average value of a mechanical property at nominal density.

Minimum value is a minimum guaranteed mechanical property a material has independently of density.

### Product characteristics

- Excellent strength-to-weight ratio
- Excellent fatigue properties
- Low resin uptake
- Durability under load
- Superior damage tolerance
- Fast and easy to process
- Good chemical resistance
- Low water absorption
- Good temperature resistance

### Typical application areas



## Technical characteristics

Characteristics <sup>1</sup>	Unit	H45	H60	H80	H100	H130	H160	H200	H250	Test method
Density variation	kg/m <sup>3</sup>	43-55	48-67	67-87	90-115	117-149	145-180	180-230	230-290	-
Thermal conductivity <sup>2</sup>	W/(m·K)	0.028	0.029	0.031	0.033	0.036	0.040	0.044	0.049	EN 12667
Coeff, linear heat expansion	x10 <sup>-6</sup> /°C	40	40	40	40	40	40	40	40	ISO 4897
Heat Distortion Temperature	°C	+125	+125	+125	+125	+125	+125	+125	+125	DIN 53424
Continuous temp range	°C	-200/+70	-200/+70	-200/+70	-200/+70	-200/+70	-200/+70	-200/+70	-200/+70	-
Max process temp	°C	+90	+90	+90	+110	+110	+110	+110	+110	-
Dissipation factor	-	0.0002	0.0003	0.0005	0.0006	0.0009	0.0012	0.0015	0.0019	ASTM D 2520
Dielectric constant	-	1.05	1.06	1.09	1.11	1.15	1.18	1.23	1.29	ASTM D 2520
Poissons ratio <sup>3</sup>	-	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	D638-08

1. Typical values
2. Thermal conductivity at +20°C
3. Standard deviation is 0.045

Maximum processing temperature is dependent on time, pressure, and process conditions. To confirm that Divinycell H is compatible with users particular processing parameters and for optimal design of applications used in high operating temperatures in combination with continuous load, please contact Diab Technical Services.

## Dimensions

Format		Unit	H45	H60	H80	H100	H130	H160	H200	H250
Plain sheets	Length	mm	2440	2440	2440	2160	1960	1860	1730	1640
	Width	mm	1220	1220	1220	1070	970	915	850	800
GS sheet	Length	mm	1220	1220	1220	1080	980	930	865	-
	Width	mm	813	813	813	1070	970	915	850	-
GS sheet	Length	mm	1220	1220	1220	-	-	-	-	-
	Width	mm	1220	1220	1220	-	-	-	-	-

Tolerances	Unit	Length	Width	Thickness
Plain sheets	mm	-10/+6	-5/+6	-/+ 0.5

## Storage of product

The shelf life of Divinycell is unlimited when it is stored in its original package on ambient indoor storage conditions and protected against UV exposure.

## Divinycell H is type approved by:



### Disclaimer:

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Datasheet Diab Divinycell H rev 26 SI May 2026

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