ATLASFOAM® Atlas HPE

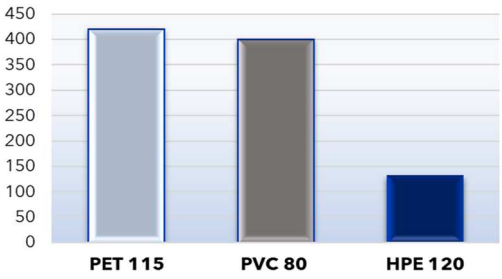
Beyond the state of the art: innovative formulation expressing excellent mechanical, chemical, thermal and technological properties, Atlas HPE is an engineered core material optimized to best satisfy industrial processing needs, applications requirements, environmental impact target for sandwich composite structures.

In addition to lightweight and mechanical performance, Atlas HPE offers:

PERFECT ADHESION-COHESION SKIN-CORE WITHOUT RESIN EXCESS

Resin uptake g/m² foam (side), plain sheet

- Resin saving 70% vs PETs & PVCs
- Lower sandwich final weight
- Improved sandwich ultimate properties



CERTIFIED DATA FOR LCA STUDIES AND ENVIRONMENTAL PRODUCT DECLARATIONS

Atlas HPE is the first foam to be granted with an EPD in the context of panels or sheets in composite system, for structural application.

EPD®

Certified
Environmental Product Declaration
EPD n. S-P-11759 / 11760
from NMG Europe

DNV

according to DNV GL class programme DNVGL-CP-0084 – Type approval – Sandwich core materials

In use since 2004 as structural core by tens of customers spanning from leading international corporates to small companies in many industries: wind turbine blades, structural/ semi-structural/interior elements in yachts and ships, train body shell and interior elements, special vehicles, containers, sporting goods.





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Atlas HPE, HIGH IMPACT AND FATIGUE RESISTANCE

Atlas HPE is a closed cell rigid structural foam based on a high cross-linking degree interpenetrated polymer network (IPN), engineered on a polymeric blend with excellent toughness and resistance in relation to weight, outstanding resistance to static and dynamic loads and superior fatigue strength with an intrinsic capacity of energy adsorption, and deformation.

TECHNICAL PROPERTIES DATA - CUSTOMIZATION POSSIBLE UPON REQUEST

Atlas HPE is an isotropic material; mechanical properties, including shear strength and modulus, are independent from sheet direction. Constancy of Atlas HPE mechanical properties are guaranteed by our innovative process and proved by routine testing at single production batch level; test data reported represent average production figures referring to over 10 years of product manufacturing and testing.

Property	Standard	Unit	HPE 90	HPE 110	HPE 120	HPE 130	HPE 160	HPE 220	HPE 250
Density	ASTM D 1622	kg/m^3	98	115	120	135	165	220	250
			95-107	110-123	117-130	128-140	155-170	210-240	240-270
Compressive strength	ASTM D 1621	MPa	0.95	1.3	1.4	1.5	2.2	4	5
Compressive modulus	ASTM D 1621-73B	MPa	55	70	80	90	110	180	210
Tensile strength	ASTM D 1623	MPa	1	1.3	1.4	1.5	2.2	3.4	4
Tensile modulus	ASTM D 1623	MPa	50	65	75	85	125	210	230
Shear strength	ASTM C 273	MPa	0.8	1	1.1	1.2	1.4	2	2.5
Shear modulus	ASTM C 273	MPa	16	21	23	27	35	60	70
Thermal conductivity	ASTM C 518	W/mK	0.025	0.027	0.028	0.029	0.034	0.039	0.041
Service Temperature		°C	-180 +90	-180 +90	-180 +90	-180 +90	-180 +90	-180 +90	-180 +90
(*) Process Temperature		°C	130	130	130	130	130	130	130

(*) maximum 1 hour

STANDARD DIMENSIONS - CUSTOMIZATION POSSIBLE UPON REQUEST

Property	Unit	HPE 90	HPE 110	HPE 120	HPE 130	HPE 160	HPE 220	HPE 250
Length	mm	2440	2250	2440	2400	2440	2440	2250
Width	mm	1220	1150	1220	1200	1220	1220	1150
Thickness	mm	5 - 300	5 - 300	5 - 300	5 - 250	5 - 250	5 - 200	5 - 200

Contact us for further information, test data report, comparative studies, references: sales@nmgonline.it

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