



Eco-friendly lightweight block based on secondary raw materials (geopolymer binder and recycled aggregate); it can be used for non-bearing walls and when thermal insulation is required.

Name of product	GEO block_P-16		
Function of product	Lightweight building block		
Form	Block		
Raw Material	Binder: Pulverised Fuel Ash (PFA); recycled polyurethane (PU) foam		Aggregate:
Properties			
Property	Unit	Value	Test methods/standardisation
Chemical/physical properties			
Bulk density*	kg/m <sup>3</sup>	942	-
Composition of materials	PFA: SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , CaO		
	PU: rigid polyurethane foam		
Structures and construction			
Dimensions of product	m	0.39x0.19x0.19	
Mechanical properties			
Compressive strength*	N/mm <sup>2</sup>	5.6	EN 12390-3
Flexural strength*	N/mm <sup>2</sup>	1.2	EN 12390-5
Tensile strength	N/mm <sup>2</sup>		
Thermal properties			
Thermal conductivity*	W/(m·K)	0.157	EN 12664
Specific heat capacity*	J/(g·K)	1,323	-
Thermal storage capacity*	kWh/m <sup>3</sup>	4,843	-
Thermal transmittance	W/m <sup>2</sup> K	n.a.	
Hygrothermal properties			
Water vapour diffusion resistance factor			
Moisture buffer value	kg/(m <sup>2</sup> ·%RH)		
Water vapour permeability	kg/(m·s·Pa)		
Acoustic properties			
Sound absorption coefficient	%		
Sound Reduction Index (Rw)**	dB	35	
Sound insulation (D2m,nT,Atr)**	dB	32.2	EN ISO 140-5
Fire Safety			
Reaction to fire			
Resistance to fire	Minutes		
Fire behaviour	-	-	
Environmental properties			
Embodied energy (% renewable)*	MJ/m <sup>3</sup>	2235.1	ISO 14000, ISO 14040, ISO 14044
GHG emissions*	kg CO <sub>2</sub> eq/m <sup>3</sup>	132.7	
TVOC (SVOC)	µg/m <sup>3</sup>		
Radon	Bq/m <sup>3</sup>		
Photocatalytic capacity			

\* property referred to the concrete

\*\*including mortar and paint