



Technical data sheet

S21 series

Mechanical Properties

Test	Standard	Unit	Result
Flexural Strength	EN 14617-2	Mpa	54,7 , F4
	ASTM D790	Mpa	56,2
Breaking Strength	ASTM C648	lbf	321
Bond Strength	ASTM C482	-	3510 N ; 0,009216 m² ; 0,38 MPa
Impact Resistance	EN 14617-9	J	4,44
	NEMA LD 3-3.8	inch	18,11 (224 g steel bar with 1-1/2" diameter)
Abrasion Resistance	EN 14617-4	mm	20,67 , A4
	ASTM C1353	lw	437,61

Physical Properties

Test	Standard	Unit	Result
Dimensional Stability	EN 14617-12	-	Class A : Stable and not sensitive to humidity
Water Absorption	EN 14617-1	%	0,12 , W3
	ASTM C97	%	0,074
Apparent Density	EN 14617-1	Kg/m ³	2053
Bulk Specific Gravity	ASTM C97	-	2,037
Freeze-Thaw Resistance Coefficient	EN 14617-5	-	94,9
	ASTM C1026	ΔW (%)	0,0311 , Passed

Thermal Properties

Test	Standard	Unit	Result
High Temperature Resistance	EN 12722 *	At 180 °C	Class: 4
	NEMA LD 3-3.6	At 180 °C	No Effect
Boiling Water Resistance	EN 12721 *	At 100 °C	Class: 4
	NEMA LD 3-3.5	At 100 °C	Moderate Effect
Thermal Shock Resistance	EN 14617-6 (20 cycle)	%	Avg. Mass Change: 0,038%
			Avg.Flex. Str. Change: 37%
Linear Thermal Expansion Coeff.	EN 14617-11	10 ⁻⁶ /°C	17,99
	ASTM E228	10 ⁻⁶ /°C	18,20
Thermal Conductivity	EN 12664	W/m-K	2,12

Surface Resistance Properties

Test	Determination	Standard	Unit	Result
Stain Resistance	Contrasting Grout	ASTM C1378-04 **	-	NA
	Carbon Lamp Black NA			NA
	Waterproof Ink NA			NA
	Washable Ink NA			NA
	Potassium Permanganate Solution			A
	Methylene Blue Solution			A
Chemical Resistance	Acetic Acid, 3% v/v	ASTM C650 **	-	NA
	Acetic Acid, 10% v/v			A
	Ammonium Chloride, 100 g/L			NA
	Citric Acid Solution, 30 g/L			NA
	Citric Acid Solution, 100 g/L			A
	Lactic Acid, 5% v/v			NA
	Phosphoric Acid, 3% v/v	EN 14617-10		NA
	Phosphoric Acid, 10% v/v			NA
	Sulfamic Acid, 30 g/L			NA
	Sulfamic Acid, 100 g/L			A
	HCL Solution			C4 (Both 20° & 60°)
	NaOH Solution			C1 (Both 20° & 60°)

Fire Classification

Test	Standard	Unit	Result
Reaction to Fire	EN 13501-1	Class	C - s2 - d2

* Tests were performed in Sustonable's internal laboratories. All other tests were conducted by accredited third-party laboratories.

** NA: Not Affected , A: Affected.