

TECHNICAL DATA

Nacera® Shell

Type/ Color: 1, 2, 3

PHYSICAL PROPERTIES & TEST METHODS

Norm	Property	Requirement	Typical Values
	Optical Properties		opaque
13356	Density [acc.. ISO 18754 or EN 623-2]	≥ 6,00 [g/cm ³]	6,05
13356	Microstructure: Mean linear intercept [acc.. EN 623-3 or ASTM E112]	≤ 0,4 [μm]	0,35
6872	4 Point Bending Strength	≥ 800 [MPa]	1200
13356	Cycl. Fatigue	≥ 320 [MPa]	Successful, no failure
13356	Radioactivity	≤ 200 [Bq/kg]	15
6872	CTE	Determination	10*10 ⁻⁶ K ⁻¹
6872	Chem. Solubility	≤ 2.000 [μg/cm ²]	12
13356	Young's modulus	≥ 200 [GPa]	205
13356	Hardness	≥ 11,8 [GPa]	13

CHEMICAL COMPOSITION

Norm	Property	Elements - Oxides	Requirement	Typical Values
13356	Content in mass %	ZrO ₂ + HfO ₂ + Y ₂ O ₃	≥ 99,0	99,70
13356		Y ₂ O	> 4,5 bis ≤ 6,0	5,50
13356		HfO ₂	≤ 5	1,90
13356		Al ₂ O ₃	≤ 0,5	0,25
13356		other oxides	≤ 0,5	≤ 0,5

Notified Body: ecm GmbH **CE 0481**

These properties were measured on test samples. The values are typical material properties and may vary according to product configuration, geometry and manufacturing process.