Physical and Chemical Characteristics
Nacera® Pearl 1

Physical and Performance Characteristics

standard - section		features - characteristics	requirements	evidence (test results)	testing company [*]
13356	4.1	density [according to ISO 18754 or EN 623-2]	≥ 6,00 [g/cm³]	6,075	DMC-Laboratory
13356	4.3	microstructure: intercept distance [Test acc. to EN 623-3 or ASTM E112]	≤ 0,4 [µm]	0,4	FGK
13356	4.4	biaxial flexural strength	≥ 500 [MPa]	1365	DMC-Laboratory
13356	4.6	cyclic fatigue limit stress	≥ 320 [MPa]	successful, no failure	Endolab
13356	4.7	radioactivity	≤ 200 [Bq/kg]	21,3	VKTA
6872	7.4	linear thermal expansion	determination [10^{-6} K^{-1}]	10	FGK
6872	7.6	chemical solubility	2.000 [µg ·cm^2]	4	FGK

Chemical Characteristics

standard - section		characteristic[s]	elements - oxides	requirements	evidence (test results)	testing company [*]
13356	4.2	composition [mass percentage]	$ZrO_2 + HfO_2 + Y_2O_3$	≥ 99,0	99,95	FGK
13356			Y_2O	> 4,5 up to ≤ 6,0	5,48	FGK
13356			HfO_2	≤ 5	1,77	FGK
13356			Al_3O_3	≤ 0,5	0,003	FGK
13356			other oxides	≤ 0,5	0,047	FGK

[*] Accreditation certificate available on request

Registered notified body:

TÜV SÜD Product Service GmbH **CE 0123**

Responsible for accuracy and correctness of this data:

Head of QM / Regulatory Affairs Stefan Drude / 05/02/15