



## Wefapress<sup>®</sup> St 1000<sup>®</sup> BOR Neutrolen (DIN 16972 TG2)

Standard colour(s): natural  
 Special colour(s): –  
 Fields of application: • nuclear industry

- Properties:
- high absorption of thermal neutrons
  - high mechanical load
  - extreme hardness
  - good chemical resistance

Material designation		St 1000 <sup>®</sup> BOR Neutrolen	
Raw material	PE-UHMW		
Material colour(s)	natural		
Properties	Unit	Test method	Value
Molecular weight (average molar mass)	g/mol		~ 5 Mio.
Mechanical properties			
Density	g/cm <sup>3</sup>	DIN 53479	1,33
Tensile strength	N/mm <sup>2</sup>	DIN 53455	> 25
Shore D hardness, 15s - Value	Skala D	DIN 53505	60 – 65
Ball indentation hardness, 30s - Value	N/mm <sup>2</sup>	DIN ISO 2039 Part 1	30 – 35
Ultimate tensile strength	N/mm <sup>2</sup>	DIN 53455	
Elongation at break	%	DIN ISO / R 527	≥ 200
Modulus of elasticity	N/mm <sup>2</sup>	DIN 53457	> 850
Notched impact strength (Charpy)	kJ/m <sup>2</sup>	DIN 53453	≥ 120
Abrasion	%	Sand slurry method	100
Coefficient of friction	μ		~ 0,3
Thermal properties			
Dimensional stability under heat	°C	DIN 53461	
Vicat softening temperature	°C	DIN 53460	80
Crystalline melting range	°C	DTA	135 – 138
Thermal conductivity at 23 °C	W/ (K * m)	DIN 52612	~ 0,4
Specific heat at 23 °C	kJ/ (K * Kg)		
Coefficient of linear expansion at 23 °C	10 <sup>-5</sup> * (1/K)	DIN 53752	20
Fire behaviour		UL 94	HB
Application temperature (min.)	°C		- 200
Application temperature (constant)	°C		+ 85
Moisture absorption	%		< 0,01
Electrical properties			
Specific volume resistance	Ω * cm	DIN 53482	10 <sup>14</sup>
Surface resistance	Ω	DIN 53482	10 <sup>12</sup>
Dielectric strength	kV/mm	DIN 53481	45
Dielectric constant at 50 Hz		DIN 53485	2,1