

RF MATERIALS

Properties of PREPERM® 3D Filaments

PROPERTIES	ISO	Unit	ABS300	ABS350	ABS400	ABS450	ABS500	ABS550	ABS650	ABS800	ABS1000	ABS1200	
Dielectric properties													
Dielectric constant	2.4 GHz		3.0	3.5	4.0	4.5	5.0	5.5	6.5	8.0	10	12	
Tolerance			±0.1	±0.1	±0.1	±0.15	±0.15	±0.2	±0.2	±0.25	±0.35	±0.5	
Loss tangent	2.4 GHz		0.0046	0.0042	0.0043	0.0042	0.0036	0.0039	0.0034	0.0033	0.0030	0.0029	
Physical properties													
Specific gravity		g/cm ³	1.12	1.23	1.41	1.52	1.56	1.68	1.80	2.00	2.20	2.37	
Water absorption, max.	62	%	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	
Mechanical properties													
Tensile strength	527	MPa	30	29	28	27	25	25	23	22	19	18	
Yield strength	527	MPa	38	34	30	28	27	28	23	22	20	-	
Elongation at break	527	%	50	19	14	11	9	5	5	5	7	3	
Elongation at yield	527	%	5	3	3	3	3	3	3	2	2	-	
Flexural modulus	178	MPa	2100	2000	1600	1600	1500	1500	1600	1600	1400	1400	
Impact properties													
Unnotched Izod	23 °C/73 °F	180	kJ/m ²	NB	NB	28	31	35	20	20	17	20	11
Notched Izod	23 °C/73 °F	180	kJ/m ²	20	22	3	4	4	3	3	3	3	3
Thermal properties													
Deflection temperature	0.45 MPa	75	°C	92	91	90	91	90	90	89	88	83	87
	1.8 MPa	75	°C	78	79	80	79	75	70	71	74	70	69

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