

Technical Characteristics of Materials

IBOCO wiring products respond to all installation needs, coping with different uses and environment applications. They are manufactured with high quality materials that undergo severe quality controls and performance tests under extreme operating and duration conditions with a constant control of quality standards.

- WIRING DUCTS T1, T1-E, T1-K, T1-B, TS, SEP-E, CL, COV, TR1 and TR1-E are manufactured in rigid SELF-EXTINGUISHING PVC.
- Those components for which high bending resilience is required are in polyamide 6 and polypropylene.
- SPIRALITE is manufactured in natural polyethylene and self-extinguishing polyethylene.

MATERIALS			PVC DUCT	PVC MOULDED COMPONENTS	POLYAMIDE 6	POLYETHYLENE	FLAME RETARDANT POLYETHYLENE
TECHNICAL CHARACTERISTICS							
CHEMICAL-PHYSICAL PROPERTIES	UNIT OF MEASURE	STANDARD	Value	Value	Value	Value	Value
Specific gravity	g/cm ³	ASTM D792	1.55	1.32	1.14	0.92	0.97
H ₂ O 73,4° F absorption	%	ISO 62	<0,1	<0,1	2,5	<0,1	<0,1
Formaldehyde	ppm	–	absent	absent	absent	absent	absent
Cadmium	ppm	–	absent	absent	absent	absent	absent
MECHANICAL PROPERTIES							
Tensile stress at break	MPa	ASTM D638	39	30	45	17	15
Traction strength	MPa	ASTM D638	44	27	55	9,5	9
Elongation at break	%	ASTM D638	130	97	250	400	600
Modulus of elasticity at traction	MPa	ASTM D638	4400	–	950	–	240
Modulus of elasticity at flexion	MPa	ASTM D790	3200	–	1100	210	130
THERMAL PROPERTIES							
Temperature VICAT	°C	ASTM D1525	84	70	198	89	–
HDT	°C	ASTM D648	72	60	185	–	–
Coefficient of expansion	K ⁻¹	ASTM D696	6 10 ⁻⁵	8 10 ⁻⁵	8-10 10 ⁻⁵	22 10 ⁻⁵	10 ⁻⁵
Specific heat	kJ/kgK	ASTM C351	0,94	1,24	1,7	–	–
Thermal conductivity	W/mK	ASTM C177	0,14	0,14	0,29	0,32	0,32
ELECTRICAL PROPERTIES							
Dielectric constant	–	ASTM D150	3,2 - 4,0	3,2	5,0	2,4	2,3
Dielectric strength	kV/mm	IEC 243	70	60	35	90	90
Surface resistance	Ohm	IEC 93	10 ¹³	10 ¹³	5 10 ¹¹	10 ¹³	10 ¹³
SELF-EXTINGUISHING							
Self-extinguishing 1,6 millimeters	–	UL 94	V0	V0	V2	HB	V2
Self-extinguishing 3,2 millimeters	–	UL 94	V0	V0	V2	HB	V2
Glow wire test (2 mm)	°C	IEC 695-2-1	960	960	650	650	850
Oxygen number	%	ASTM D2863	43	34	25	–	25