

ICS IE TOUGHCAT 7

S/FTP Installation Cable for tougher environments



GENERAL INFO

Generic Data transmission. This cable is a Cat.7 S/FTP cable meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

CERTIFICATIONS AND DESIGN STANDARDS



IEC 61156-5
EN 50173-1
EN 50288-4-1
ISO/IEC 11801

Datacom cables
Generic cabling systems
Datacom cables shielded up to 600 MHz
Generic cabling system

CABLE CONSTRUCTION

Conductor material	Copper
Conductor surface	Bare
Core insulation material	Polyethylene (PE)
Screen over stranding element	Foil + braiding
Screen construction	Metal tape and braid
Screen material	Copper, tinned
Screen over stranding	Braiding
Material outer sheath	Thermoplastic polymer
Cable shape	Round

APPLICATION PROPERTIES

Oil resistant (acc. IEC 60811-404)	Yes
Min. outer temperature, fixed installation [°C]	-40
Max. outer temperature, fixed installation [°C]	80
UV resistant	Yes
Outdoor installation	Yes
Min. outer temperature during installation [°C]	-20
Max. outer temperature during installation [°C]	50
Bending radius (rule)	Installation: 8 x D, Operation : 4 x D
Certified for shipboard application	Yes

FIRE PROPERTIES

Flame retardant	In accordance with EN/IEC 60332-3-22
Halogen free (acc. IEC 60754-2)	Yes
Low smoke (acc. IEC 61034-2)	Yes
Reaction-to-fire class (acc. EN 13501-6)	Dca
Smoke development class (acc. EN 13501-6)	s2
Euro class flaming droplets/particles (acc. EN 13501-6)	d1
Euro class acidity (acc. EN 13501-6)	a1

ELECTRICAL PROPERTIES

Test voltage [kV]	1
Category	7
NVP value [%]	76
Resistance unbalance (max) [%]	2
Nominal mutual capacitance [pF/m]	43
Capacitance unbalance (max) [pF/m]	1,500
Propagation delay (max) [ns/100m]	450
Delay skew (max) [ns/100m]	15
Transfer impedance at 10 MHz [mOhm/m]	8
Segregation classification (acc. EN 50174-2)	d

ELECTRICAL DATA (NOMINAL)

F (MHz)	Attenuation (dB/100m)	NEXT (dB)	ACR (dB/100m)	Return loss (dB)	PS-NEXT (dB)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)
1	2,0	90	88		87	85	85	82
4	3,6	90	86	27	87	83	85	82
10	5,5	90	84	30	87	81	79	76
16	7,5	90	82	30	87	79	75	72
20	7,7	90	82	30	87	79	73	70
31.25	9,8	90	80	30	87	77	69	66
62.50	14	86	72	30	83	69	63	60
100	17,9	83	65	30	80	62	59	56
155	22,4	81	59	26	78	55	57	54
200	25,6	78	52	25	75	49	53	50
250	28,8	77	48	25	74	45	51	48
300	31,6	73	41	23	70	38	47	44
600	45,7	71	25	20	68	22	44	41

acc. to Cat.7 (at 20°C)

PRODUCT ORDER DATA

Product name	Colour outer sheath	SAP	EL no.	Packaging type	Standard packaging quantity	User unit
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Grey	60030363	60030363	Drum	1,000	MTR
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Grey	60011617	60011617	Drum (non-standard length)		MTR
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Grey	60015820	1082653	Drum	500	MTR
TOUGHCAT C7 LSHF-FR BK 4P/0.27MM2	Black	60048765	60048765	Drum	1,000	MTR

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CONSTRUCTION DETAILS

Product name	Conductor category	Diameter conductor [mm]	AWG size	Number of stranding elements	SAP
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Class 2 = stranded	0.66	23	4	60030363
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Class 2 = stranded	0.66	23	4	60011617
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	Class 2 = stranded	0.66	23	4	60015820
TOUGHCAT C7 LSHF-FR BK 4P/0.27MM2	Class 2 = stranded	0.66	23	4	60048765

CONSTRUCTION DETAILS(02)

Product name	Nominal outer diameter [mm]	Fire load [MJ/km]	Max. tensile strength during installation [kN]	Cable weight [kg/km]	DOP number	SAP
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	8.1	670	0.14	75	1000936	60030363
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	8.1	670	0.14	75	1000936	60011617
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	8.1	670	0.14	75	1000936	60015820
TOUGHCAT C7 LSHF-FR BK 4P/0.27MM2	8.1	670	0.14	75	1000976	60048765

ELECTRICAL PROPERTIES(PER ITEM)

Product name	Nominal operation capacitance [nF/km]	Characteristic impedance [Ohm]	Loop resistance [Ohm]	Coupling attenuation [dB]	SAP
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	43	100	138	85	60030363
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	43	100	138	85	60011617
TOUGHCAT C7 LSHF-FR 4X2/0.27MM2	43	100	138	85	60015820
TOUGHCAT C7 LSHF-FR BK 4P/0.27MM2	43	100	138	85	60048765