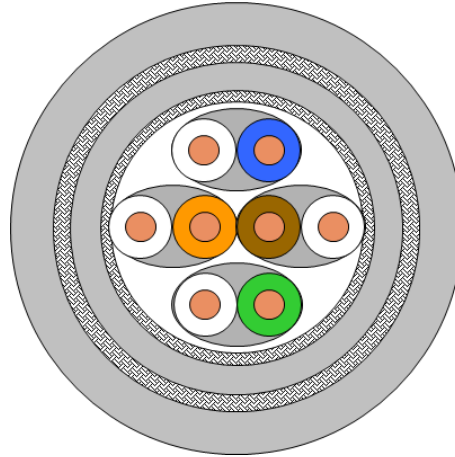


# ICS IE ToughCat 7S\* Armoured S/FTP Installation Cable for tougher environments



\* Version with Solid conductors

## Application

Generic Data transmission. This cable is a **Cat7 S/FTP** cable meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

## Standards

EN 50173-1; EN 50288-4-1  
 ISO/IEC 11801; IEC 61156-5  
 Power over Ethernet(PoE/PoE+)  
 Det Norske Veritas (DNV) specification No. 6-827.50-2

## Fire rating

LSHF-FR(SHF1) : IEC 60754-2; IEC 61034, IEC 60332-3-24

## Chemical resistance

Mineral oils IRM 902 (IEC60811-2-1) : 7 days/23°C, 4 hours/70°C  
 Diesel - IRM 903 (IEC60811-2-1) : 7 days/23°C, 4 hours/70°C

## Certification

This cable is based on the unarmoured version certified by: Det Norske Veritas (DNV)

## Construction

Conductor	Solid copper wire, Ø 0.56 mm (AWG 23)
Insulation	foamskin PE, Ø 1.4 mm
Twisting	2 cores to the pair
Pair screen	Al-laminated plastic foil
Cable lay up	4 pairs (PiMF) to the core
Screen	copper braid, tinned
Inner Sheath	Oil resistant, Fire retardant and halogen free LSHF-FR (SHF1), Ø 7,6 mm
Armouring	Galvanized steel wire braid, Wire diameter 0,25mm
Outer sheath	Oil resistant, Fire retardant and halogen free LSHF-FR (SHF1)

# ICS IE ToughCat 7S\* Armoured

## Mechanical properties

Bending radius	Installation	8 x D
	Installed	4 x D
Temperature range	During operation	-40°C to + 85°C
	During installation	-15°C to + 50°C
Fire load	4 pair	1540 MJ/km
Maximum tensile load	During operation	No load
	During installation	540 N

## Electrical properties

at 20°C ± 5°C

Loop resistance		≤ 150 Ω/km
Resistance unbalance		≤ 2%
Insulation resistance	(500 V)	≥ 5000 MΩ*km
Mutual capacitance	at 800 Hz	Nom. 43 nF/km
Capacitance unbalance	(pair/ground)	≤ 1500 pF/km
Characteristic impedance	(1-100 MHz)	100 ± 5 Ω
	(100 - 250) MHz	100 ± 10 Ω
	(250 - 600) MHz	100 ± 15 Ω
Nominal velocity of propagation		ca. 79 %
Propagation delay		≤ 570 ns/100m
Delay skew		≤ 9 ns/100m
Test voltage	(DC, 1 min) core/core and core/screen	1000 V
Transfer impedance(Grade 1)	at 1 MHz	≤ 10 mΩ/m
	at 10 MHz	≤ 10 mΩ/m
	at 30 MHz	≤ 10 mΩ/m
	at 100MHz	≤ 20 mΩ/m
Coupling attenuation		≥ 85 dB
Segregation classification	Acc. to EN 50174-2	"D"

## Electrical data (nominal)

acc. to Cat.7 (at 20°C)

F (MHZ)	Attenuation (dB/100m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100m)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	Return loss (dB)
1,0	1,8	100	97	98	95	105	105	-
4,0	3,4	100	97	97	94	105	102	27
10,0	5,4	100	97	95	92	97	94	30
16,0	6,8	100	97	93	90	93	90	30
20,0	7,7	100	97	92	89	91	88	30
31,2	9,6	100	97	90	87	87	84	30
62,5	13,7	100	97	86	83	81	78	30
100,0	17,4	100	97	83	80	77	74	30
125,0	19,5	95	92	75	72	75	72	26
155,5	21,9	94	91	72	69	73	70	26
175,0	23,3	93	90	70	67	72	69	25
200,0	25,0	92	89	67	64	71	68	25
250,0	28,1	90	87	62	59	69	66	24
300,0	30,9	89	86	58	55	67	64	24
450,0	38,3	87	84	48	45	64	61	23
600,0	44,8	85	82	40	37	61	58	22

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## Technical data

Part no.	Description	Colour	Outer diameter mm	Fire load		Weight kg/km
				MJ/km	kWh/m	
60027371	ToughCat7S_SWB S/FTP 4x2/0.56	Grey RAL7035	10,6	1540	0,428	168

## Product Code Table

Product Description	Product Code	PG Reference Code	PG Part Number
ToughCat7S_SWB S/FTP 4x2/0.56		60027369	<b>60027369</b>
ToughCat7S_SWB S/FTP 4x2/0.56 500DP		60027369	<b>60027371</b>

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