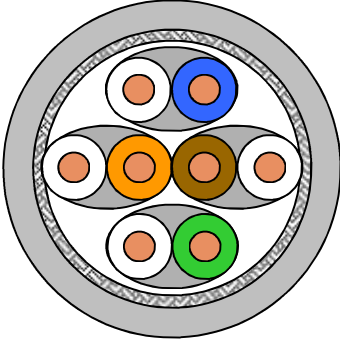


# ICS IE ToughCat 7S\*

## 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  
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 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
Sheath	Oil resistant, Fire retardant and halogen free LSHF-FR (SHF1).

## ICS IE ToughCat 7S\*

### Mechanical properties

Bending radius	Without load	8 x D
	With load	4 x D
Temperature range	During operation	-40°C to + 85°C
	During installation	-15°C to + 50°C
Fire load	4 pair	670 MJ/km
Maximum tensile load	During operation	No load
	During installation	200 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

## ICS IE ToughCat 7S\*

### 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

### Technical data

Part no.	Description	Colour	Outer diameter mm	Fire load		Weight kg/km
				MJ/km	kWh/m	
1022322	ToughCat7S S/FTP 4x2/0.56	Grey RAL7035	7,6	670	0,186	64

### Product Code Table

Product Description	Product Code	PG Reference Code	PG Part Number
ToughCat C7S LSHF-FR 4x2/0.56		60015280	<b>60015280</b>
ToughCat C7S LSHF-FR 4x2/0.56 500DP	1022322-00500DP	60015280	<b>60015282</b>

© PRYSMIAN GROUP 2011, All Rights Reserved

All sizes and values without tolerances are reference values. Specifications are for product as supplied by Prysmian Group: any modification or alteration afterwards of product may give different result.

The information contained within this document must not be copied, reprinted or reproduced in any form, either wholly or in part, without the written consent of Prysmian Group. The information is believed to be correct at the time of issue. Prysmian Group reserves the right to amend this specification without prior notice. This specification is not contractually valid unless specifically authorised by Prysmian Group.