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The following chapter of special cables offers solutions for Use our comprehensive knowledge about cables plus the moving applications going beyond standard energy supply. experience of 2 billion test cycles that are annually achieved in the company's chainflex[®] laboratory.

The constantly growing program of special cables is in response to our customer requirements.

At the same time this can be an inspiration for users. igus® can make cables for special applications using many summary pages of the CFSPECIAL cables. different materials and production processes. Depending to the construction this is already possible from a length of We look forward to hearing about your requirements! 500m.

chainflex[®] guarantee

As these are special cables for special applications, we ask you to contact us for information on the guaranteed lifetime:

Phone +49-2203 9649-0, info@igus.de

The technical and material details of the CFSPECIAL families are documented in data sheets and are available on the internet. The respective web links can be recalled on the



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

411

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

Thermocouple cable | PUR | chainflex® CFTHERMO

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Dynamic information		
Bend radius	e-chain [®] linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 5 x d
🛌 Temperature	e-chain [®] linear	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	unsupported	2m/s
	gliding	1m/s
a max.	20m/s ²	
Travel distance	Unsupported trav	els and up to 50m for gliding applications, Class 4
Cable structure		
Conductor	Conductor consisting of a flexible special alloy.	
	Product range	e table
Core insulation	Mechanically high	n-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.	
K Core identification	According to thermo specification.	
	Product range table	
Intermediate layer	Fleece taping over the external layer.	
Overall shield	Extremely bending-resistant braiding made of tinned copper wires.	
	Coverage linear approx. 70%, optical approx. 90%	
Couter jacket	-	alogen-free, highly abrasion resistant PUR mixture, adapted
(c) ·		ments in e-chains [®] (following DIN EN 50363-10-2)
	•	g to thermo specification Product range table
Electrical information	,	
Ku Nominal voltage	300/300V (followi	ng DIN VDE 0298-3)



1,500V





Basic requirements Travel distance unsupported Oil resistance Torsion

Class 5.4.3.1

Properties and approvals	
UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-
Silicone-free	Free from silicone which can affect pai 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-
	service life calculator based on 2 billi
	Certificate No. RU C-DE.ME77.B.003
REACH REACH	In accordance with regulation (EC) No
Rouse Lead-free	Following 2011/65/EC (RoHS-II/RoHS
clean- room	According to ISO Class 1. The outer ja
room	CF77.UL.05.12.D - tested by IPA acc
CECE	Following 2014/35/EU
UK UKCA CA	In accordance with the valid regulation
Typical application areas	

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 50m for gliding applications, Class 4
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Part No.	Number of cores and con- ductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFTHERMO.J.001 *	(2x0.23)C	5.5	9	36
CFTHERMO.K.001	(2x0.23)C	5.5	9	37
CFTHERMO.K.002	(2x0.23)C+3G0.5	7.5	24	67

* The cross-section of the copper conductor is equivalent to the electrically effective cross-section.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. G = with green-yellow earth core x = without earth core

Part No.	Jacket colour	Thermo materials	Core group	Colour code
CFTHERMO.J.001	black	Fe-CuNi	(2x0.23)C	+ black, - white
CFTHERMO.K.001	green	NiCr-Ni	(2x0.23)C	+ green, - white
CFTHERMO.K.002	green	NiCr-Ni	(2x0.23)C	+ green, - white
		Cu	3G0.5	brown, blue, yellow-green

EU202 S

iqus

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CFTHERMO PUR 12.5 x d

3-10-2), Class 3

aint adhesion (following PV 3.10.7 – status

5-month chainflex cable guarantee and llion test cycles per year" 300/19

lo. 1907/2006 (REACH)

HS-III)

jacket material of this series complies with cording to standard DIN EN ISO 14644-1

ons of the United Kingdom (as at 08/2021)







Single core flat cable | TPE | chainflex[®] CFFLAT

TPE

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

ynamic mornadon		
Bend radius	e-chain [®] linear	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Contractor Temperature	e-chain® linear	-35°C up to +90°C
$(\bigcirc$	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	unsupported	10m/s
$(\bigcirc$	gliding	6m/s
a max.	100m/s ²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	
able structure		
Conductor	Highly flexible braided special conductor.	
Core insulation	Mechanically high-quality TPE mixture.	
Outer jacket	Low-adhesion, e	xtremely abrasion-resistant and highly flexible TPE mixture
(8	adapted to suit th	ne requirements in e-chains [®] .
	Colour: Steel blue	e (similar to RAL 5011)
lectrical information		
ku Nominal voltage	600/1,000V (follo	wing DIN VDE 0298-3)

Testing voltage Ŕ

E

4,000V (following DIN EN 50395)

Class 7.5.4.1

Basic requirements Travel distance Oil resistance Torsion

unsupported

Properties and approvals	
UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 608 24568 with Plantocut 8 S-MB teste
Silicone-free	Free from silicone which can affect 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 3 service life calculator based on 2 b
EAC	Certificate No. RU C-DE.ME77.B.0
REACH	In accordance with regulation (EC)
RoHS Lead-free	Following 2011/65/EC (RoHS-II/Rc
clean- room	According to ISO Class 1. The oute CF9.15.07 - tested by IPA accordir
CECE	Following 2014/35/EU
	In accordance with the valid regulat
Typical application areas	

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, for small installation spaces and bend radii, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, low-temperature applications

Part No.	Number of cores and conductor nominal cross section	Outer dimensions	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFFLAT.40.01	1x4.0	14.0x5.5	48	117

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. G = with green-yellow earth core x = without earth core



EU202



igus



CFFLAT TPE 5 x d

0811-404), bio-oil-resistant (following VDMA ted by DEA), Class 4 paint adhesion (following PV 3.10.7 – status

36-month chainflex cable guarantee and billion test cycles per year" 00863/20

) No. 1907/2006 (REACH)

oHS-III)

ter jacket material of this series complies with ling to standard DIN EN ISO 14644-1

ations of the United Kingdom (as at 08/2021)













CE UK CA

Bus cable for hanging applications | PUR chainflex[®] CFSPECIAL.182

- For increased tensile load
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	e-chain [®] linear	minimum 10 x d	
(LR	flexible	minimum 8 x d	
	fixed	minimum 5 x d	
🛌 Temperature	e-chain [®] linear	-25°C up to +80°C	
	flexible	-40°C up to +80°C (following DIN EN 60811-504)	
	fixed	-50°C up to +80°C (following DIN EN 50305)	
v v max.	unsupported	10m/s	
	gliding	6m/s	
a max.	100m/s ²		
Travel distance	For hanging appli	cations up to 50 m	
Co+m+			
Cable structure			
Conductor	Stranded conduc	tor in especially bending-resistant version consisting of bare	
	copper wires (foll	owing DIN EN 60228).	
Core insulation	According to bus	specification.	
Core structure	According to bus	specification.	
Core identification	According to bus	specification.	
Inner jacket	TPE mixture adap	oted to suit the requirements in e-chains®.	
Overall shield	Bending-resistan	t braiding made of tinned copper wires.	
((C)	Coverage linear a	pprox. 70%, optical approx. 90%	
Couter jacket	1. Outer jacket: F	1. Outer jacket: PUR mixture adapted to suit the requirements in e-chains [®] .	
6	Reinforcement:	ligh tensile strength aramid braid embedded in the outer jacket.	
		Low-adhesion, halogen-free PUR mixture, highly abrasion and	
	•	adapted to suit the requirements in hanging applications (fol-	
	lowing DIN EN 50		
	•	similar to RAL 9005)	
Electrical information			
L Nominal voltage	50V		
Ų∪	300V (following L		
A Testing voltage	500V	ر	
Properties and approvals			
Froperties and approvais			

Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)			
Offshore	MUD-resistant following NEK 606 - status 2009			
Flame-retardant	According to IEC 60332-1-2, Cable	Flame, VW-1, FT1	, FT2 / Horiz	zontal Flame
Silicone-free	Free from silicone which can affect p 1992)	aint adhesion (follo	owing PV 3. ⁻	10.7 – status
Halogen-free	Following DIN EN 60754			
UL verified	Certificate No. B129699: "igus 3 service life calculator based on 2 b		-	arantee and
UL/CSA AWM	See data sheet for details > www.i		-	
NFPA	Following NFPA 79-2018, chapter 1	2.9		
	Certificate No. RU C-DE.ME77.B.00	Certificate No. RU C-DE.ME77.B.00295/19		
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)			
Rous Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)			
CECE	Following 2014/35/EU			
UK UKCA CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)			
Typical application areas				
 For increased tensile load For hanging applications of Almost unlimited resistance Storage and retrieval units 	ce to oil			
Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm ²]	[mm]	[kg/km]	[kg/km]
CFSPECIAL.182.045 CFSPECIAL.182.060 ¹³⁾	(4x(2x0.15))C (4x0.38)C	9.5 8.5	42 37	136 125
		0.0	01	120
¹³⁾ Colour outer jacket: Yellow-green (F	,	nco limito		
Note: The given outer diameters are r G = with green-yellow earth core \mathbf{x} =	naximum values and may tend toward lower tolera without earth core	וונפ ווודוונג.		
	Characteristic wave			

Part No. Ethernet/CAT5e/PoE	Characteristic wave impedance approx. [Ω]	Core grou
CFSPECIAL.182.045	100	(4x(2x0.15
Profinet		
CFSPECIAL.182.060	100	(4x0.38)

igus® chainflex® CFSPECIAL.182.060

nple image

Exar

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igus

CFSP.182 PUR 10 x d

Colour code oup

5))C white-blue/blue, white-orange/orange, white-green/green, white-brown/brown

3)C white, orange, blue, yellow (star-quad)



Control cable for rail vehicles chainflex[®] CFSPECIAL.414

- For heaviest duty applications in rail vehicles
- Special outer jacket
- PVC and halogen-free
- Oil-resistant
- Flame-retardant
- Self-extinguishing
- Low toxicity
- Low gas density

Dynamic information

Bend radius	e-chain [®] linear	minimum 7.5 x d
R	flexible	minimum 6 x d
	fixed	minimum 4 x d
Cartemperature	e-chain [®] linear	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	unsupported	10m/s
a max.	20m/s ²	
Travel distance	For unsupported	travel lengths up to 100m

Cable structure

Conductor	Fine-wire stranded conductor in especially bending-resistant version consist- ing of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality special mixture.
Core identification	Black cores with white numbers.
Outer jacket	Special mixture adapted to suit the requirements in e-chains [®] (following DIN EN 50264-1 EM 104). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	

Testing voltage

Properties and approvals

UV resistance Oil resistance

4.

A

Oil-resistant (following DIN EN 60811-2-1)

Especially for rail vehicles

Following DIN EN 45545-2 Fire safety class 3 (HL3)
Following DIN EN 60754
Certificate No. B129699: "igus 36- service life calculator based on 2 billio Certificate No. RU C-DE.ME77.B.003
In accordance with regulation (EC) No
Following 2011/65/EC (RoHS-II/RoHS
Following 2014/35/EU
In accordance with the valid regulation
Low toxicity according to EN 50305-9
Low smoke gas density according to

Typical application areas

• Rail vehicles, automatic doors, buses, adjusting equipment

Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFSPECIAL.414.03.04 11)	4x0.34	5.0	15	36
CFSPECIAL.414.03.06 11)	6x0.34	6.0	23	51

¹¹⁾ Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. G = with green-yellow earth core x = without earth core

Part No.	Core group
CFSPECIAL.414.03.04	4x0.34
CFSPECIAL.414.03.06	6x0.34



chainflex® CFSPECIAL.414 in automatic door systems for underground railway vehicles of VAG Verkehrs-Aktiengesellschaft Nürnberg, each approx. 70,000 opening and closing cycles per year. e-chain®: E2 micro series.

Example image

300/500V

2,000V

High

JS'

Ø



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igus

6-month chainflex cable guarantee and llion test cycles per year" 300/19

lo. 1907/2006 (REACH)

HS-III)

ons of the United Kingdom (as at 08/2021)

-9.2

EN 61034-2

Colour code black with white numbers 1-4 black with white numbers 1-6





Bus cable for rail vehicles chainflex[®] CFSPECIAL.484

- For heaviest duty applications in rail vehicles
- Special outer jacket
- PVC and halogen-free
- Oil-resistant
- Flame-retardant
- Self-extinguishing
- Low toxicity
- Low gas density

Dynamic information

Bend radius	e-chain [®] linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Carl Temperature	e-chain [®] linear	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	unsupported	10m/s
a max.	20m/s ²	
Travel distance	For unsupported travel lengths up to 100m	

Cable structure

((

Fine-wire stranded conductor in especially bending-resistant version consist- ing of bare copper wires (following DIN EN 60228).
According to bus specification.
According to bus specification.
According to bus specification.
TPE mixture adapted to suit the requirements in e-chains®.
Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%
Special mixture adapted to suit the requirements in e-chains® (following DIN
EN 50264-1 EM 104).
Colour: jet black (similar to RAL 9005)

Electrical information Nominal voltage

50V



500V Testing voltage

Especially for rail vehicles

Properties and approvals 1.11-11

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811
Flame-retardant	Following DIN EN 45545-2 Fire safety class 3 (HL3)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36 service life calculator based on 2 billi
EAC	Certificate No. RU C-DE.ME77.B.002
REACH	In accordance with regulation (EC) No
Rous Lead-free	Following 2011/65/EC (RoHS-II/RoH
CECE	Following 2014/35/EU
UK UKCA CA	In accordance with the valid regulation
Toxicity	Low toxicity according to EN 50305-
Smoke gas density	Low smoke gas density according to

Typical application areas

• Rail vehicles, automatic doors, buses, adjusting equipment

Part No. Ethernet/CAT6	Number of cores and conductor nominal cross section [mm ²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.484.049 ¹¹⁾	(4x(2x0.15))C	8.5	42	86

¹¹⁾ Phase-out model

EU2022

igus:

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. G = with green-yellow earth core x = without earth core

Part No. Ethernet/CAT6	Characteristic wave impedance approx.	Core grou
CFSPECIAL.484.049	100	(4x(2x0.15

Example image

CFSP.484 12.5 x d

1-2-1)

6-month chainflex cable guarantee and illion test cycles per year" 295/19

No. 1907/2006 (REACH)

HS-III)

ons of the United Kingdom (as at 08/2021)

-9.2

o EN 61034-2

Colour code oup

5))C white-blue/blue, white-orange/orange, white-green/green, white-brown/brown



























PVC iguPUR	PUR	TPE		New
ata cable for	top dri	ve applic	ations PUR	
ainflex [®] CFSF	PECIAL	.532		
or top drive applica or heavy duty appli UR outer jacket hielded il-resistant and coo ame-retardant VC and halogen-fre V-resistant ydrolysis and micro	cations plant-resis ee			For top drive hanging applications up to 50m
amic information				
Bend radius	e-chain [®] lin flexible fixed	near minimum minimum minimum	8 x d	
→ Temperature	e-chain [®] lin flexible fixed	-40°C up	to +80°C to +80°C (following DIN to +80°C (following DIN	·
□ v max.	unsupport sliding 50m/s ²	ed 10m/s 2m/s		
⊸ a max.	50H/S			
Travel distance	For top driv	e hanging applica	tions up to 50m	
le structure	Stranded c	onductor in espec	cially bending-resistant	version consisting of bare
		es (following DIN E		
Core insulation	Mechanical	ly high-quality, es	pecially low-capacitanc	e XLPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.			
Core identification		s with white numb	ers.	
Overall shield	-	÷	•	d copper wires. Coverage
Couter jacket		x. 70%, optical ap ket: PUR mixture	adapted to suit the requi	irements in e-chains®.
	Reinforcen 2. Outer ja bending-res	nent: High tensile s cket: Low-adhesic	strength aramid braid em on, halogen-free PUR m suit the requirements in	bedded in the outer jacket. hixture, highly abrasion and top drive hanging applica-

perties and approvals	
UV resistance	High
Oil resistance	Oil-resistant (in accordance with D
Offshore	MUD-resistant following NEK 606
Flame-retardant	According to IEC 60332-1-2, Cab
Silicone-free	Free from silicone which can affect 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36 vice life calculator based on 2 billio
UL/CSA AWM	See data sheet for details > www
NFPA	Following NFPA 79-2018, chapter
REACH	In accordance with regulation (EC)
s Lead-free	Following 2011/65/EC (RoHS-II)
ECE	Following 2014/35/EU
	In accordance with the valid regula
-	

al application areas

- r high tensile loads
- nost unlimited resistance to oil
- r top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFSPECIAL.532.15.08.02	(8x(2x1.5)C)C	30.0	513	1014
CFSPECIAL.532.15.16.02	(16x(2x1.5)C)C	36.5	972	1669

The given outer diameters are maximum values and may tend toward lower tolerance limits. h green-yellow earth core \mathbf{x} = without earth core

Example image

Electrical information

Testing voltage

40

Nominal voltage

EPLAN download, configurators ► www.igus.eu/CFSPECIAL.532

Colour: jet black (similar to RAL 9005)

4,000V (following DIN EN 50395)

600/1,000V (following DIN VDE 0298-3)

EU2022



CFSP.532 PUR 10 x d

c**FL**us

NFPA

REACH

RoHS

CE

UK CA

DIN EN 50363-10-2)

6 - status 2009

ole Flame, VW-1, FT1, FT2 / Horizontal Flame

ct paint adhesion (following PV 3.10.7 – status

6-month chainflex cable guarantee and serion test cycles per year" w.igus.eu/CFSPECIAL532

er 12.9

C) No. 1907/2006 (REACH)

lations of the United Kingdom (as at 08/2021)



Motor cable for	ton drive	applications F		New					
chainflex [®] CFSP	ECIAL.562	PE			Properties and approvals				
					UV resistance	High			
 For top drive applica For heavy duty appli 			For top d	rive	Oil resistance	Oil-resistant (in accordance with DIN	EN 50363-10-2)		
 PUR outer jacket Shielded 			hangin applicatio		Offshore	MUD-resistant following NEK 606 - s	status 2009		
 Oil-resistant and cod Flame-retardant 	olant-resistant		up to 50		Flame-retardant	According to IEC 60332-1-2, Cable I	Flame, VW-1, FT1,	FT2 / Horiz	ontal Flar
 PVC and halogen-free UV-resistant 	ee				Silicone-free	Free from silicone which can affect pa 1992)	aint adhesion (follov	ving PV 3.1	0.7 – stat
Hydrolysis and micro	obe-resistant				Halogen-free	Following DIN EN 60754			
Dynamic information					UL verified	Certificate No. B129699: "igus 36-n vice life calculator based on 2 billion		-	e and se
Bend radius	e-chain [®] linear flexible	minimum 10 x d minimum 8 x d			ENus UL/CSA AWM	See data sheet for details <a> www.ic	jus.eu/CFSPECIA	L.562.PE	
Temperature	fixed e-chain [®] linear	minimum 5 x d -25°C up to +80°C			NFPA NFPA	Following NFPA 79-2018, chapter 12	2.9		
	flexible fixed	-40°C up to +80°C (follow -50°C up to +80°C (follow	•	4)	REACH REACH	In accordance with regulation (EC) N	o. 1907/2006 (RE/	ACH)	
v max.	unsupported sliding	10m/s 2m/s			Rous Lead-free	Following 2011/65/EC (RoHS-II)			
a max.	50m/s ²				CECE	Following 2014/35/EU			
Travel distance	For top drive han	iging applications up to 50m	1			In accordance with the valid regulation	ons of the United Ki	ngdom (as	at 08/20
Cable structure									
Conductor	Conductor cable	consisting of pre-leads (follo	owing DIN EN 60228).		Typical application areasFor high tensile loads				
Core insulation	Mechanically high	h-quality TPE mixture.			 Almost unlimited resistan For top drive hanging app 				
Core identification	Green-yellow								
Overall shield	-	ng-resistant braiding made c %, optical approx. 90%	of tinned copper wires.	. Coverage	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weigh
Outer jacket	•	PUR mixture adapted to suit th	•			[mm²] 01 1G70	[mm]	[kg/km] 713	[kg/km
	2. Outer jacket: bending-resistant, tions (following DI	High tensile strength aramid b Low-adhesion, halogen-free , adapted to suit the requiren N EN 50363-10-2). similar to RAL 9005)	PUR mixture, highly at	brasion and	CFSPECIAL.562.PE.700.0 Note: The given outer diameters are G = with green-yellow earth core x =	maximum values and may tend toward lower toleran	19.5 ce limits.		867
Electrical information									
ku Nominal voltage		owing DIN VDE 0298-3)							
Testing voltage	4,000V (following	9 DIN EN 50395)							

EU2022

igus

igus" chainflex" CFSPECIAL.562.PE

CFSP.562. PE PUR 10 x d

NFPA

REACH



 For heavy duty applications PUR outer jacket Shielded Offshore MUD-resistant following NEK Offshore MUD-resistant following NEK Offshore MUD-resistant following NEK Offshore MUD-resistant following NEK Silicone-free Frame-retardant Correliable Hadogen-free For top drive Hadogen-free For top drive Hadogen-free For top drive Fame-retardant According to IEC 60332-1-2, 1 MUD-resistant following NEK Silicone-free Free from silicone which can at 1992 Halogen-free For top drive in silicone with resultance For top drive hanging applications up to 50m Conductor Conductor cable consisting of pre-leads (following DIN EN 60228). Core insulation Mechanically high-quality TPE mixture. Core insulation Mechanical presistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90% 	chainflex [®] CFSF	PECIAL.572		Properties and approvals	
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I-resistant and coolant-resistant ame-retardant (C and halogen-free /resistant /drolysis and microbe-resistant Image for the stand to be added to be ad	JR outer jacket	lications		Offshore	MUD-resistant following NEK 60
sistant oldspace of the second of the secon	esistant and co	olant-resistant		Flame-retardant	According to IEC 60332-1-2, Ca
wic information Bend radius e-chain® linear minimum 10 x d flexible minimum 8 x d fixed minimum 5 x d fixed minimum 5 x d remperature e-chain® linear -25°C up to +80°C flexible -40°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -00°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C up to +80°C (following DIN EN 60811-504) fixed fixed -60°C transulation Mechanically high-quality TPE mixture. Core insulation Mechanically high-quality TPE mixture. Mechanically high-quality TPE mixture. Outer jacket 1. Outer jacket: PUR mixture adapted to suit the requirements in e-chains ⁸ . Reinforcement: High tensile adapted to suit the requirements in top drive hanging applications up to 50m	•	ree		Silicone-free	Free from silicone which can affe 1992)
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Temperature e-chain® linear -25°C up to +80°C if exible -40°C up to +80°C (following DIN EN 60811-504) fixed -50°C up to +80°C (following DIN EN 50305) v max. unsupported 10m/s sliding 2m/s a max. 50m/s² Travel distance For top drive hanging applications up to 50m te structure Conductor Conductor Conductor cable consisting of pre-leads (following DIN EN 60228). Overall shield Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%. Outer jacket 1. Outer jacket: Low-achesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging application CFSPECIAL.572.2400.01 (1x240)C CFSPECIAL.572.2400.01 (1x200)C CFSPECIAL.572.2400.01 (1x400)C	Bend radius				See data sheet for details ▶ ww
flexible -40°C up to +80°C (following DIN EN 60811-504) fixed In accordance with regulation fixed -50°C up to +80°C (following DIN EN 50305) Image: Comparison of the state of the	Temperature				Following NFPA 79-2018, chapt
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Travel distance For top drive hanging applications up to 50m In accordance with the valid residence with the v	v max.		10m/s	Rous Lead-free	Following 2011/65/EC (RoHS-II)
Structure Conductor Conductor cable consisting of pre-leads (following DIN EN 60228). Core insulation Mechanically high-quality TPE mixture. Structure Overall shield Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90% Almost unlimited resistance to oil Outer jacket 1. Outer jacket: PUR mixture adapted to suit the requirements in e-chains [®] . Part No. Number of cores and condu nominal cross section [mm²] CippeCiAL.572.2400.01 (1x240)C CFSPECIAL.572.2400.01 (1x240)C CFSPECIAL.572.2400.01 (1x400)C CFSPECIAL.572.2400.01 (1x400)C Cressection (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005) Cressection areas Net: The given outer diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower diameters are maximum values and may tend toward lower	a max.	50m/s ²		CECE	Following 2014/35/EU
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 Core insulation Mechanically high-quality TPE mixture. For high tensile loads Almost unlimited resistance to oil For top drive hanging applications up to 50m Overall shield Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90% Outer jacket Outer jacket: PUR mixture adapted to suit the requirements in e-chains[®]. Reinforcement: High tensile strength aramid braid embedded in the outer jacket. Outer jacket: Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005) 		Conductor cable	consisting of pre-leads (following DIN FN 60228).	Typical application areas	
 Overall shield Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90% Outer jacket Outer jacket: PUR mixture adapted to suit the requirements in e-chains[®]. Reinforcement: High tensile strength aramid braid embedded in the outer jacket. Outer jacket: Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications. (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005) 	8				
Overall shield Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90% Outer jacket 1. Outer jacket: PUR mixture adapted to suit the requirements in e-chains®. Reinforcement: High tensile strength aramid braid embedded in the outer jacket. Part No. Number of cores and condu nominal cross section [mm ²] CFSPECIAL.572.2400.01 (1x240)C CFSPECIAL.572.3000.01 (1x300)C CFSPECIAL.572.4000.01 (1x400)C CFSPECIAL.572.4000.01 (1x400)C CFSPECIAL.572.4000.01 (1x400)C CFSPECIAL.572.4000.01 (1x400)C	Core insulation	Mechanically high	-quality TPE mixture.	 Almost unlimited resistance 	ce to oil
Inear approx. 70%, optical approx. 90%				 For top drive hanging app 	lications up to 50m
Reinforcement: High tensile strength aramid braid embedded in the outer jacket. Part No. nominal cross section 2. Outer jacket: Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005) CFSPECIAL.572.3000.01 (1x300)C ectrical information CFSPECIAL.572.4000.01 (1x400)C where we determine the provide the sector of the provide the provide the provide the sector of the provide the sector of the provide th	Overall shield	-			
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behaving resistant, adapted to sait the requirements in top drive nanging applied tions (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005) ectrical information Note: The given outer diameters are maximum values and may tend toward lower G = with green-yellow earth core x = without earth core		•		CFSPECIAL.572.2400.01	
colour: jet black (similar to RAL 9005) cctrical information colour: jet black (similar to RAL 9005) cctrical information cctrin cctrical in		•			
ectrical information Note: The given outer diameters are maximum values and may tend toward lower G = with green-yellow earth core x = without earth core				CFSPECIAL.572.4000.01	
Nominal voltage 600/1,000V (following DIN VDE 0298-3) G = with green-yellow earth core x = without earth core	lectrical information	,	,		
	Nominal voltage	600/1,000V (follow	wing DIN VDE 0298-3)	\mathbf{G} = with green-yellow earth core \mathbf{x} =	without earth core
	A Testing voltage	4,000V (following			

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Example image

CFSP.572 PUR 10 x d

with DIN EN 50363-10-2)

EK 606 - status 2009

-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

n affect paint adhesion (following PV 3.10.7 – status

igus 36-month chainflex cable guarantee and sera 2 billion test cycles per year" www.igus.eu/CFSPECIAL572

chapter 12.9

on (EC) No. 1907/2006 (REACH)

regulations of the United Kingdom (as at 08/2021)

tor	Outer diameter (d) max.	Copper index	Weight
	[mm]	[kg/km]	[kg/km]
	34.5	2581	3081
	37.5	3189	3799
	42.0	4269	5007

ower tolerance limits.



CFSP.792 PUR

Cable for axis 7 on robots | PUR | CFSPECIAL.792

- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

ynamic information						
Bend radius	e-chain [®] linear	minimum 10 x d				
	flexible	minimum 8 x d				
	fixed	minimum 5 x d				
Temperature	e-chain [®] linear	-25°C up to +80°C				
	flexible	-40°C up to +80°C (following DIN EN 60811-504)				
	fixed	-50°C up to +80°C (following DIN EN 50305)				
v max.	unsupported	3m/s				
	gliding	2m/s				
a max.	20m/s ²					
Travel distance	Unsupported trav	vels and up to 100m for gliding applications, Class 5				
Cable structure						
Conductor	Finely stranded c 60228).	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).				
Core insulation	Mechanically high	Mechanically high-quality TPE mixture.				
Core identification	Product range table					
Inner jacket	TPE mixture ada	TPE mixture adapted to suit the requirements in e-chains [®] .				
Coverall shield	Bending-resistan	t braiding made of tinned copper wires.				
	Coverage linear approx. 50%, optical approx. 80%					
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains [®] (following DIN EN 50363-10-2) Colour: jet black (similar to RAL 9005)					

Electrical information

4u	Nominal voltage	600/
70		1,00
A	Testing voltage	4,000

(1,000V (following DIN VDE 0298-3) OV (following UL) 00V (following DIN EN 50395)

L/CSA AWM

UL verified

Properties and approvals

Oil resistance

Flame-retardant

UV resistance

Offshore

Silicone-free

Halogen-free

High

1992)

Following DIN EN 60754

Following 2014/35/EU

hal

EAC EAC REACH REACH

RoHS Lead-free

CECE **UK** UKCA CA

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In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- Reliable e-chain[®] cable for the seventh robot axis
- Electrical properties in line with Kuka (.011/.013/.014), ABB (.012) and Fanuc (.015/.016)

CFSP.792 PUR 10 x d

Oil-resistant (following DIN EN 50363-10-2), Class 3

MUD-resistant following NEK 606 - status 2009

According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

Free from silicone which can affect paint adhesion (following PV 3.10.7 - status

Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details **www.igus.eu/CFSPECIAL792**

Following NFPA 79-2018, chapter 12.9

Certificate No. RU C-DE.ME77.B.00302/19

In accordance with regulation (EC) No. 1907/2006 (REACH)

Following 2011/65/EC (RoHS-II/RoHS-III)



Cable for axis 7 on robots | PUR | CFSPECIAL.792

igus" chainflex" CFSPECIAL.792

	Example image							
	Part No.	Number of cores and Conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight	Part No.	Core group	Colour code
		[mm ²]	[mm]	[kg/km]	[kg/km]			
	ABB							
	CFSPECIAL.792.012	(18G2.5)C	25.5	545	882	CFSPECIAL.792.012	(18G2.5)C	Black cores with whi
	Fanuc							
	CFSPECIAL.792.015	(7x(6x2.0))C	36.5	999	1747	CFSPECIAL.792.015	(7x(6x2.0))C	Black cores with white Blue cores with white Yellow cores with bla
	CFSPECIAL.792.016	(5x(4x0.25)+10x(3x0.75))C	26.5	422	877	CFSPECIAL.792.016	5x(4x0.25)	(blue/violet/brown/gr brown/green), (grey/
							10x(3x0.75)	Brown cores with wh Black cores with white Blue cores with white Green cores with bla Yellow cores with bla Red cores with white Violet cores with white Grey cores with blac
	Kuka							
	CFSPECIAL.792.011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5	1250	2033	CFSPECIAL.792.011	10x6.0	Black cores with whi
							10x2.5	Black cores with whi
							2x(6x1.0)C	Black cores with whi
	CFSPECIAL.792.013	((6x1.5)C+3x(3x4)+1G6)C	28.0	679	1220	CFSPECIAL.792.013	(6x1.5)C	Black cores with whi
					-		3x(3x4)	Black cores with whi
							1G6	Green-yellow core
	CFSPECIAL.792.014	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5 13	1340	2122	CFSPECIAL.792.014	2x(3x1.5)C	Black cores with whi
							3x(3x10)	Black cores with whi
							1G10	Green-yellow core

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Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. G = with green-yellow earth core x = without earth core



white numbers 1-17, one green-yellow core

white numbers 1-29 hite numbers 1-4 black numbers 1-9

/green), (grey/violet/yellow/brown), (grey/blue/ ey/blue/green/yellow), (green/violet/brown/yellow)

white numbers 1, 7, 24 & 30 white numbers 16-21 thite numbers 2, 8 & 25 black numbers 3, 9 & 26 black numbers 5, 22 & 28 hite numbers 11-15 white numbers 4, 10 & 27 lack numbers 6, 23 & 29

white numbers 1-9, one green-yellow core white numbers 10-18, one green-yellow core white numbers 19-30 white numbers 10-15 white numbers 1-9 e white numbers 10-15 white numbers 10-15





















