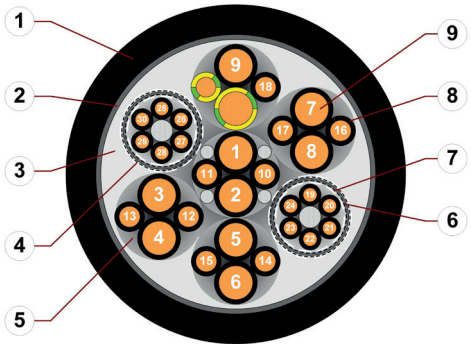
Data sheet
chainflex® CFSPECIAL.792

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



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Bending-resistant braiding made of tinned copper wires.
3. Inner jacket: Pressure extruded, gusset-filling TPE mixture
4. Element banding: Plastic fleece over plastic foil
5. Bundles with optimised pitch length and pitch direction
6. Element shield: Bending-resistant braiding made of tinned copper wires
7. Element banding: Plastic foil over plastic fleece
8. Core insulation: Mechanically high-quality TPE mixture
9. Conductor: Fine-wire stranded conductor consisting of bare copper wires

Example image
For detailed overview please see design table

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage approx. 50 % linear, approx. 80 % optical
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) **Printing:** white

„00000 m“* igus chainflex CFSPECIAL.792.---① ---② 600/1000V E310776 cЯUus

AWM Style -----③ VW-1 AWM I/II A/B 80°C 1000V FT1 CE

RoHS-II conform www.igus.de +++ chainflex cable works +++

*** Length printing:** Not calibrated. Only intended as an orientation aid.
① / ② Cable identification according to Part No. (see technical table).
③ Printing of the UL style (see related chapter).
Example: ... chainflex **CFSPECIAL.792.012 (18G2.5)C 600/1000V** ...

Example image

Data sheet
chainflex® CFSPECIAL.792

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

Example image

Dynamic 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**	3 m/s
	gliding	2 m/s
a max.		20 m/s²
Travel distance		Unsupported travels and up to 100 m for gliding applications, Class 5

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Guaranteed service life according to guarantee conditions

Double strokes	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

Minimum guaranteed service life of the cable under the specified conditions.
The installation of the cable is recommended within the middle temperature range.

Electrical information

Nominal voltage	600/1000 V (following DIN VDE 0298-3)
Testing voltage	4000 V (following DIN EN 50395)

Data sheet
chainflex® CFSPECIAL.792

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

Example image

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2009
Flame retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL/CSA	Style 10258 and 20234, 1000 V, 80 °C **CFSPECIAL.792.012/CFSPECIAL.792.015:** Style 10492 and 21223, 1000 V, 80 °C
NFPA	Following NFPA 79-2018, chapter 12.9
CEI	Following CEI 20-35
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

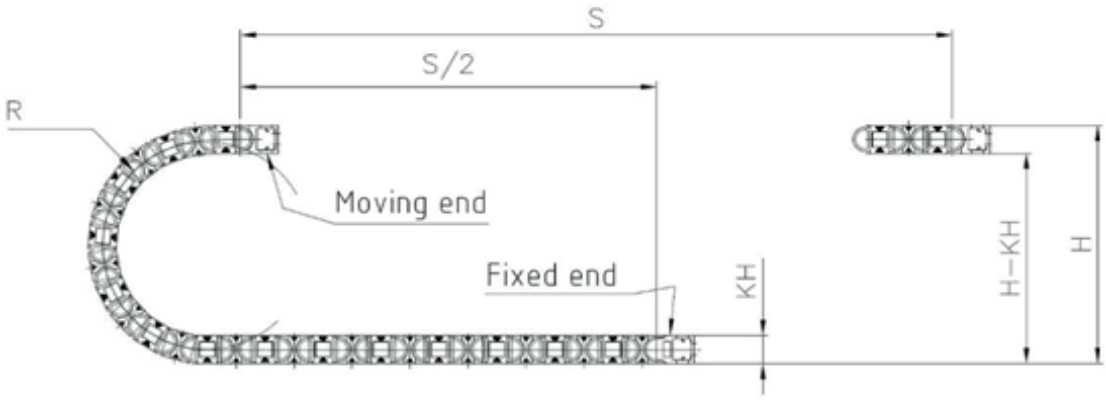
Data sheet
chainflex® CFSPECIAL.792

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

Example image

Typical lab test setup for this cable series

Test bend radius R	approx. 38 - 200 mm
Test travel S	approx. 1 - 15 m
Test duration	minimum 2 - 4 million double strokes
Test speed	approx. 0.5 - 2 m / s
Test acceleration	approx. 0.5 - 1.5 m / s²



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)

Data sheet
chainflex® CFSPECIAL.792

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

Example image

Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.792.011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5	1250	2026
CFSPECIAL.792.012	(18G2.5)C	25.5	545	920
CFSPECIAL.792.013	((6x1.5)C+3x(3x4)+1G6)C	28.0	679	1209
CFSPECIAL.792.014	(2x(3x1.5)C+3x(3x10)+1G10)C	36.0	1346	2089
CFSPECIAL.792.015	(7x(6x2.0))C	36.5	999	1680
CFSPECIAL.792.016	(5x(4x0.25)+10x(3x0.75))C	27.0	422	854

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

Electrical information

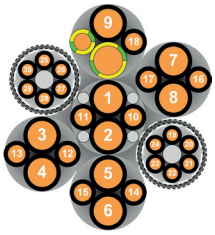
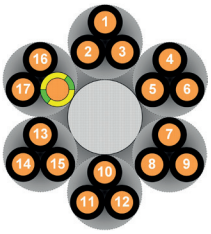
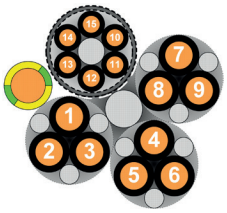
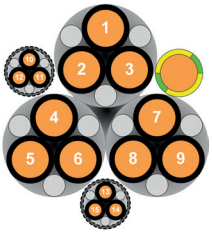
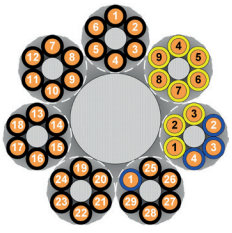
Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [A]
0.25	79.0	5
0.75	26.0	14
1.0	19.5	17
1.5	13.3	21
2.0	10.0	26
2.5	8.0	30
4.0	4.95	41
6.0	3.3	53
10	1.91	74

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Data sheet
chainflex® CFSPECIAL.792

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

Example image

Part No.	Core group	Colour code	Core design
CFSPECIAL.792.011	10x6.0	Black cores with white numbers 1-9, one green-yellow core	
	10x2.5	Black cores with white numbers 10-18, one green-yellow core	
	2x(6x1.0)C	Black cores with white numbers 19-30	
CFSPECIAL.792.012	(18G2.5)C	Black cores with white numbers 1-17, one green-yellow core	
CFSPECIAL.792.013	(6x1.5)C	Black cores with white numbers 10-15	
	3x(3x4)	Black cores with white numbers 1-9	
	1G6	Green-yellow core	
CFSPECIAL.792.014	2x(3x1.5)C	Black cores with white numbers 10-15	
	3x(3x10)	Black cores with white numbers 1-9	
	1G10	Green-yellow core	
CFSPECIAL.792.015	7x(6x2.0)	Black cores with white numbers 1-29 Blue cores with white numbers 1-4 Yellow cores with black numbers 1-9	
CFSPECIAL.792.016	5x(4x0.25)	(blue/violet/brown/green),(grey/violet/yellow/brown),(grey/blue/brown/green),(grey/blue/green/yellow),(green/violet/brown/yellow)	
	10x(3x0.75)	Brown cores with white numbers 1, 7, 24 & 30 Black cores with white numbers 16-21 Blue cores with white numbers 2, 8 & 25 Green cores with black numbers 3, 9 & 26 Yellow cores with black numbers 5, 22 & 28 Red cores with white numbers 11-15 Violet cores with white numbers 4, 10 & 27 Yellow cores with black numbers 6, 23 & 29	