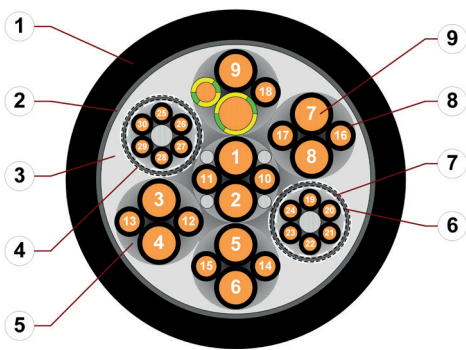


Data sheet

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 cAUus

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 ...



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Hybrid cable ● 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 flexible fixed	minimum 10 x d minimum 8 x d minimum 5 x d
	Temperature	e-chain® linear flexible fixed	-25 °C up to +80 °C -40 °C up to +80 °C (following DIN EN 60811-504) -50 °C up to +80 °C (following DIN EN 50305)
	v max.	unsupported gliding	3 m/s 2 m/s
	a max.		20 m/s ²
	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)



Example image

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

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



Example image



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Data sheet

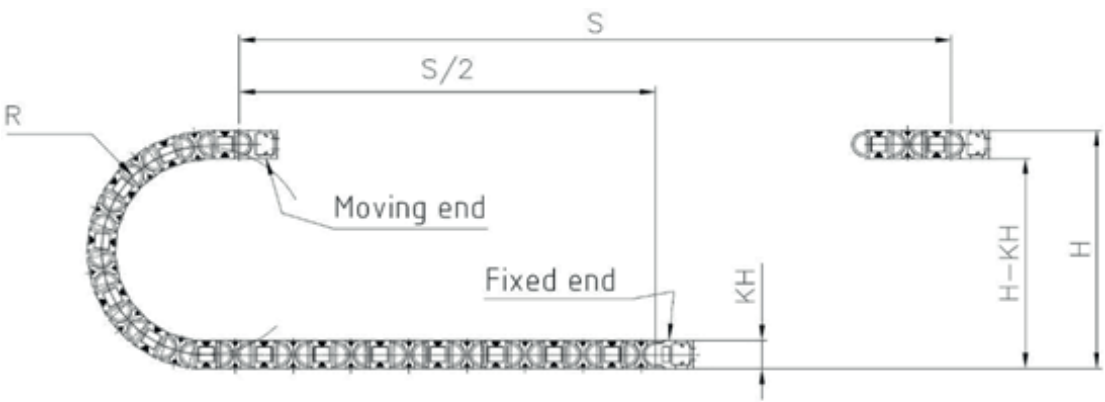
chainflex® CFSPECIAL.792



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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 / s ²



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)

Example image



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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	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.



Example image

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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	



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