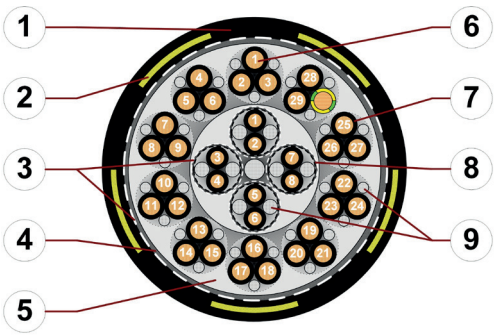
Data sheet
chainflex® CFSPECIAL.592

Hybrid cable for TopDrive applications | For heavy duty applications, PUR outer jacket, shielded, oil-resistant and coolant-resistant, flame retardant, PVC and halogen-free, UV-resistant, hydrolysis and microbe-resistant

Example image



Example image
For detailed overview please see design table

1. Outer jacket: Pressure extruded PUR mixture
2. Reinforcement: Tensile strength aramid braiding (embedded in the outer jacket)
3. Banding: Plastic fleece
4. Overall shield: Bending-resistant braiding made of tinned copper wires
5. Inner jacket: Pressure extruded, gusset-filling TPE mixture
6. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires
7. Core insulation: Mechanically high quality XLPE mixture
8. Element shield: Bending-resistant braiding made of tinned copper wires
9. Strain relief: Tensile stress-resistant centre element

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70 %, optical approx. 90 %
Outer jacket	Low-adhesion, halogen-free PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Jet black (similar to RAL 9005)

„00000 m“* igus chainflex CFSPECIAL.592.① ----② 600/1000V E310776

cЯUus AWM Style 21223 VW-1 AWM I/II A/B 80°C 1000V FT1 DNV TAE00004KR

CE UKCA www.igus.eu +++ chainflex cable works +++

*** Length printing:** Not calibrated. Only intended as an orientation aid.
① / ② Cable identification according to Part No. (see technical table).
Example: ... chainflex **CFSPECIAL.592.001 (30G4,0+4x(2x2,5)C)C 600/1000V** ...

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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	10 m/s
		gliding	2 m/s
a max.		50 m/s²	
Travel		For hanging TopDrive applications up to 50 m	

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

Electrical information

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

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Example image

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2009
Flame retardant	According to IEC 60332-1-2, 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
PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
UL/CSA AWM	Details see table UL/CSA AWM
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Properties and approvals

UL/CSA AWM details

Conductor nominal cross section [mm²]	UL style core insulation	UL style outer jacket	UL Temperature Rating [°C]	UL Voltage Rating [V]
2.5	30054	21223	80	1000
4.0	30054	21223	80	1000

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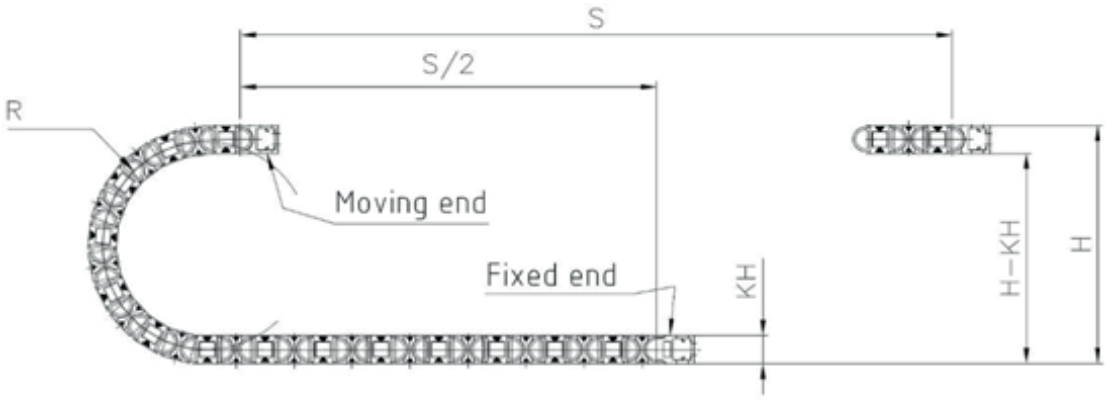
Example image

Typical lab test setup for this cable series

Test bend radius R	approx. 250 - 300 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 mechanical application areas

- For increased tensile load
- Almost unlimited resistance to oil
- For hanging TopDrive applications up to 50 m

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Example image

Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter maximum [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.592.001	(30G4.0+4x(2x2.5)C)C	44.0	1749	2629

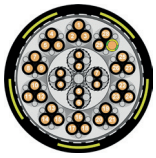
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
2.5	7.98	30
4.0	4.95	41

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

Design table

Part No.	Core group	Colour code	Core design
CFSPECIAL.592.001	30G4.0	Black cores with white numbers 1-29, one green-yellow core	
	4x(2x2.5)C	Black cores with white numbers 1-8	