Coax cable | TPE | chainflex® CFKoax

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400 m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	±180°				

Example image

- For extremely heavy duty applications
- TPE outer jacket
- Oil-resistant, bio-oil-resistant
- UV-resistant
- Hydrolysis and microbe-resistant

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**	-35 °C to +100 °C (CFKoax1/3) -35 °C to +70 °C (CFKoax2)
	flexible	-50 °C to +100 °C (CFKoax1/3) -50 °C to +70 °C (CFKoax2)
	fixed	-55 °C to +100 °C (CFKoax1/3) -55 °C to +70 °C (CFKoax2)
v max.	**unsupported**	10 m/s
	gliding	5 m/s
a max.		100 m/s²
Travel distance		Unsupported travel distances and up to 400 m and more for gliding applications, Class 6

Cable structure

Conductor	Multi-wire; adapted to single-wire diameter with pitch length to suit the requirements in e-chains®.
Core insulation	Special FEP mixture (CFKoax1/3) Special PE insulation mixture. (CFKoax2)
Core structure	Cores wound in a layer with a short pitch length.
Core identification	Coaxial elements Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical
Element jacket	TPE mixture, adapted to suit the requirements in e-chains®.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Product range table

Electrical information

Nominal voltage	500/500 V (following DIN VDE 0298-3)
Testing voltage	1500 V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium.
Oil resistance	Oil resistant (following DIN EN 60811-404), bio-oil resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4.
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
EAC	Certificate no. RU C-DE.ME77.B.01254 (TR ZU)
Lead-free	Following 2011/65/EU (RoHS-II).
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1.
CE	Following 2014/35/EU.
Info	The coaxial elements used in cables of the CFKoax1 series are comparable with a HF75-0.3/1.6 according to MIL-C-17/94-RG179 and thus fit into an RG179 plug! The coaxial elements used in cables of the CFKoax2 series are comparable with a HF50-0.9/2.95 according to MIL-C-17/28-RG58 and thus fit into an RG58 plug! The coaxial elements used in cables of the CFKoax3 series are comparable with a HF50-0.3/0.84 according to MIL-C-17/93-RG178 and thus fit into an RG178 plug!

Guaranteed lifetime according to guarantee conditions (Page 22-23)

	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12,5	13,5	14,5
-25/+60 (CFKoax2)	10	11	12
-25/+90 (CFKoax1/3)	10	11	12
+60/+70 (CFKoax2)	12,5	13,5	14,5
+90/+100 (CFKoax1/3)	12,5	13,5	14,5

* Higher number of double strokes? Online lifetime calculation: www.igus.eu/chainflexlife

Typical mechanical application areas

- For heaviest duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications with average sun radiation
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling equipment, Clean room, semiconductor handling, indoor cranes, low temperature applications

CFKoax
TPE
10 x d

Coax cable | TPE | chainflex® CFKoax

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest	
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400 m		
Oil resistance	none	1	2	3	**4**	highest				
Torsion	none	**1**	2	3	±180°					

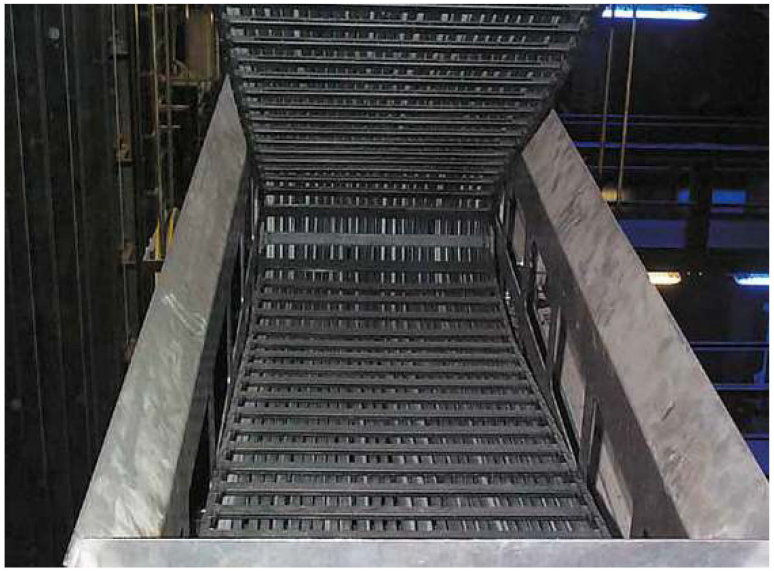
CFKoax
TPE
10 x d

Example image

Part No.	Coaxial elements	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFKoax1.01	1	4.5	7	23
CFKoax1.05	5	10.0	35	112
CFKoax2.01	1	5.5	20	37
CFKoax3.01	1	3.0	5	12

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.	Characteristic wave impedance approx. [Ω]	Conductor/ Core diam. nom. [mm]	Colour code	Colour outer jacket (similar to RAL)
CFKoax1.01	75	0.3/1.6	red	Steel-blue (similar to RAL 5011)
CFKoax1.05	75	0.3/1.6	red, green, blue, white, black	Steel-blue (similar to RAL 5011)
CFKoax2.01	50	0.9/2.95	-	Jet black (similar to RAL 9005)
CFKoax3.01	50	0.3/0.85	-	Window-grey (similar to RAL 7040)



Coax cable and other chainflex® cables in platform technology. e-chain®: System E4/4