

# Coax cable | TPE | chainflex® CFKCoax

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

## Dynamic information

	<b>Bend radius</b>	<b>e-chain® linear</b>	minimum 10 x d
		<b>flexible</b>	minimum 8 x d
		<b>fixed</b>	minimum 5 x d
	<b>Temperature</b>	<b>e-chain® linear</b>	-35 °C to +100 °C (CFKCoax1/3)
			-35 °C to +70 °C (CFKCoax2)
		<b>flexible</b>	-50 °C to +100 °C (CFKCoax1/3)
			-50 °C to +70 °C (CFKCoax2)
	<b>v max.</b>	<b>unsupported</b>	10 m/s
		<b>gliding</b>	5 m/s
	<b>a max.</b>		100 m/s <sup>2</sup>
	<b>Travel distance</b>		Unsupported travel distances and up to 400 m and more for gliding applications, Class 6

## Cable structure

	<b>Conductor</b>	Multi-wire; adapted to single-wire diameter with pitch length to suit the requirements in e-chains®.
	<b>Core insulation</b>	Special FEP mixture (CFKCoax1/3) Special PE insulation mixture. (CFKCoax2)
	<b>Core structure</b>	Cores wound in a layer with a short pitch length.
	<b>Core identification</b>	Coaxial elements Product range table
	<b>Element shield</b>	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % inear, approx. 90 % optical
	<b>Element jacket</b>	TPE mixture, adapted to suit the requirements in e-chains®.
	<b>Outer jacket</b>	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Product range table

## Electrical information

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

# Class 6.6.4.1

## Properties and approvals

	<b>UV resistance</b>	Medium.
	<b>Oil resistance</b>	Oil resistant (following DIN EN 60811-404), bio-oil resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4.
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
	<b>EAC</b>	Certificate no. RU C-DE.ME77.B.01254 (TR ZU)
	<b>Lead-free</b>	Following 2011/65/EU (RoHS-II).
	<b>Cleanroom</b>	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1. Following 2014/35/EU.
	<b>CE</b>	
	<b>Info</b>	The coaxial elements used in cables of the CFKCoax1 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 CFKCoax2 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 CFKCoax3 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)

Temperature, from/to [°C]	5 million		7.5 million		10 million	
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12,5	13,5	13,5	14,5	14,5	14,5
-25/+60 (CFKCoax2)	10	11	11	12	12	12
-25/+90 (CFKCoax1/3)	10	11	11	12	12	12
+60/+70 (CFKCoax2)	12,5	13,5	13,5	14,5	14,5	14,5
+90/+100 (CFKCoax1/3)	12,5	13,5	13,5	14,5	14,5	14,5

\* Higher number of double strokes? Online lifetime calculation: [www.igus.eu/chainflexlife](http://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

igus® chainflex® CFKCoax  
Example image



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

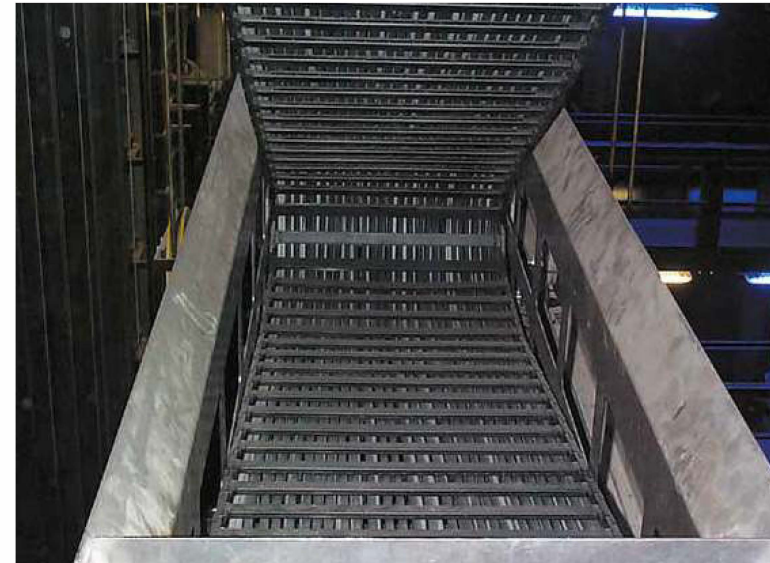


Example image

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



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