

# Servo cable | TPE | chainflex® CF29.D



**12.5 million**  
Double strokes guaranteed



**6.8 x d**  
Bend radius, e-chain®



**400m**  
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

**Now available  
with UL approval  
& 25% longer  
service life**

## Dynamic information

<b>Bend radius</b>	<b>e-chain® linear</b>	minimum 6.8 x d
	<b>flexible</b>	minimum 5 x d
	<b>fixed</b>	minimum 4 x d
<b>Temperature</b>	<b>e-chain® linear</b>	-35°C up to +100°C
	<b>flexible</b>	-50°C up to +100°C (following DIN EN 60811-504)
	<b>fixed</b>	-55°C up to +100°C (following DIN EN 50305)
<b>v max.</b>	<b>unsupported</b>	10m/s
	<b>gliding</b>	5m/s
<b>a max.</b>		80m/s²
<b>Travel distance</b>		Unsupported travels and up to 400m and more for gliding applications, Class 6

## Cable structure

<b>Conductor</b>	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
<b>Core insulation</b>	Mechanically high-quality, especially low-capacitance XLPE mixture.
<b>Core structure</b>	Power cores with control pair elements wound with elements for high tensile stresses.
<b>Core identification</b>	<b>Power cores:</b> Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- <b>1 control pair:</b> Black cores with white numbers. 1. Control core: 4 2. Control core: 5
<b>Element shield</b>	Extremely bending-resistant braiding made of tinned copper wires.
<b>Inner jacket</b>	TPE mixture adapted to suit the requirements in e-chains®.
<b>Overall shield</b>	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
<b>Outer jacket</b>	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

## Electrical information

<b>Nominal voltage</b>	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
<b>Testing voltage</b>	4,000V (following DIN EN 50395)

EPLAN download, configurators ► [www.igus.eu/CF29D](http://www.igus.eu/CF29D)

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 7.6.4.1

### 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>Halogen-free</b>	Following DIN EN 60754
<b>UL verified</b>	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
<b>UL AWM</b>	See data sheet for details ► <a href="http://www.igus.eu/CF29D">www.igus.eu/CF29D</a> (from production date 01/2022)
<b>REACH</b>	In accordance with regulation (EC) No. 1907/2006 (REACH)
<b>Lead-free</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
<b>Cleanroom</b>	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
<b>DESINA</b>	According to VDW, DESINA standardisation
<b>CE</b>	Following 2014/35/EU
<b>UKCA</b>	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

### Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	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	8.5	10	9.5	11	10.5	12
-25/+90	6.8	7.5	7.5	8.5	8.5	9.5
+90/+100	8.5	10	9.5	11	10.5	12

\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

### Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant, Class 4
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
<b>1 control pair shielded</b>				
<b>CF29.15.15.02.01.D</b>	(4G1.5+(2x1.5)C)	13.0	145	231
<b>CF29.25.15.02.01.D</b>	(4G2.5+(2x1.5)C)C	14.0	199	291
<b>CF29.40.15.02.01.D</b>	(4G4.0+(2x1.5)C)C	15.5	256	367

**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



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