TPE Bus cable | CF14-CAT5

Image exemplary.

- Ethernet special cable for extremely heavy duty use
- TPE outer jacket
- Oil-resistant
- Bio-oil-resistant
- PVC-free/halogen-free
- UV-resistant
- Hydrolysis/microbe-resistant

Dynamic Information

Bend radius	**E-Chain®**	min. 10 x d
	flexible	min. 8 x d
	fixed	min. 5 x d
Temperature	**E-Chain®**	-31 °F to +158 °F (-35 °C to +70 °C)
	flexible	-58 °F to +158 °F (-50 °C to +70 °C)
	fixed	-67 °F to +158 °F (-55 °C to +70 °C)
v max.	**unsupported**	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
a max.		328.1 ft/s² (100 m/s²)
Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

Conductors	Conductor consisting of bare copper wires (according to EN 60228).
Conductor insulation	Special PP-isolation mixture.
Conductor construction	Twisted Pairs cabled together with short pitch lengths.
Color code	Color code in accordance with DIN 47100.
Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Violet (similar to RAL 4001)

Electrical Information

Nominal voltage	50 V
Test voltage	500 V

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)

Class 6.6.4.1

Requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	1,312 ft +	
Oil-resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	±180°				

Halogen-free	Following EN 50267-2-1
EAC	Certified according to no. TC RU C-DE.ME77.B.01218
Lead-free	Following 2011/65/EC (RoHS-II)
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF9-15-07, tested by IPA according to standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EG

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Cycles*					5 million	7.5 million	10 million
Temperature, from/to [°F]	v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s²]	Travel distance [ft]	*R* min. [factor x d]	*R* min. [factor x d]	*R* min. [factor x d]
-31 / -13	32.81	19.69	328.10	≤ 1,312	12.5	13.5	14.5
-13 / +140					10	11	12
+140 / +158					12.5	13.5	14.5

* Higher number of cycles possible - please ask for your individual calculation.

Typical application areas

- For very high mechanical load requirements
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications without direct sun radiation
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Clean room, semiconductor insertion, indoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max. in.	Outer diameter max. mm	Copper index lbs/mft	Copper index kg/km	Weight lbs/mft	Weight kg/km
Ethernet/CAT5								
CF14-01-04-02-CAT5	26	4 PR x 0.15	0.33	8.5	29.6	44	55.1	82
CF14-02-02-02-CAT5 [2)]	24	2 PR x 0.25	0.30	7.5	23.5	35	40.3	60

The Chainflex® types marked with [2)] are cables designed as a star-quad.
Note: The mentioned outer diameters are maximum values.

Part No.	Characteristic Impedance [Ω]	Core group	Color code
Ethernet/CAT5			
CF14-01-04-02-CAT5	100	(4 x (2 x 0,15))C	white/brown, green/yellow, gray/pink, blue/red
CF14-02-02-02-CAT5	100	(4 x 0,25)C	white, green, brown, yellow (star-quad stranding)

More CAT5/CAT6 cables ▶ page 194 (CFBUS)