

# Motor cables



chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x dj]	Temperature, E-Chain® from/to [°F]	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	Oil-resistant	Torsion resistant v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s²]	Page
<b>Motor cables</b>															
CF885	PVC		15	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE		9.84		65.62	306
CF886	PVC	✓	15	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE		9.84		65.62	308
CF210-UL	PVC	✓	10	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	6.56	164.05	310
CF30	PVC		7.5	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	16.41	262.48	312
CF31	PVC	✓	7.5	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	16.41	262.48	316
CF895	iguPUR		15	-4/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	9.84		65.62	320
CF896	iguPUR	✓	15	-4/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	9.84		65.62	322
CF270-UL-D	PUR	✓	10	-13/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	6.56	164.05	324
CF27-D	PUR	✓	7.5	-13/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	16.41	262.48	328
CF34-UL-D	TPE		7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	262.48	332 <b>New</b>
CF35-UL	TPE	✓	7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	262.48	336 <b>New</b>
CF37-D	TPE		7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	262.48	340
CF38	TPE	✓	7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	262.48	342
<b>Spindle cables/Single conductors</b>															
CF885	PVC		15	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE		9.84		65.62	344
CF885-PE	PVC		15	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE		9.84		65.62	346
CF886	PVC	✓	15	+41/ +158	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE		9.84		65.62	348
CF270-UL-D	PUR	✓	10	-13/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	6.56	164.05	350
CF300-UL-D	TPE		7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	328.1	352
CFPE	TPE		7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	328.1	354
CF310-UL	TPE	✓	7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	328.1	356
CF330-D	TPE		7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	328.1	358
CF340	TPE	✓	7.5	-31/ +194	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	328.1	360
<b>Medium voltage cables</b>															
CFCRANE-PUR	PUR	✓	10	-4/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	164.05	362
CFCRANE	igupren	✓	10	-4/ +176	UL LISTED	UL E-Chain	NFPA	RoHS	REACH	CE	✓	32.81	19.69	164.05	364

**36 months chainflex® guarantee**  
**Guaranteed lifetime for predictable reliability**  
**► Selection table page 302**














With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

 [www.igus.com/chainflexlife](http://www.igus.com/chainflexlife)



# chainflex® guarantee



chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]
		unsupported	gliding		
<b>Motor cables</b>					
 CF885	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81
 CF886	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81
 CF210-UL	+41 / +59 +59 / +140 +140 / +158	32.81	6.56	164.1	≤ 32.81
 CF30	+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1
 CF31	+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1
 CF895	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.81
 CF896	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.81
 CF270-UL-D	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81
 CF27-D	-13 / +5 +5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1
 CF34-UL-D <b>New!</b>	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312
 CF35-UL <b>New!</b>	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312
 CF37-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312
 CF38	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312

<sup>(1)</sup> **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

# Guaranteed lifetime <sup>(1)</sup>

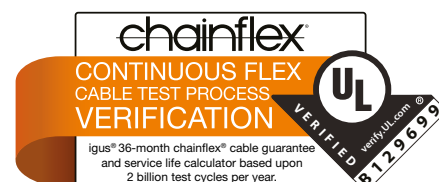
Bending radius min. [factor x d]	Bending radius min. [factor x d]	Bending radius min. [factor x d]	Page
5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *	
17.5	18.5	19.5	306
15	16	17	
17.5	18.5	19.5	
17.5	18.5	19.5	308
15	16	17	
17.5	18.5	19.5	
12.5	13.5	14.5	310
10	11	12	
12.5	13.5	14.5	
10	11	12	312
7.5	8.5	9.5	
10	11	12	
10	11	12	316
7.5	8.5	9.5	
10	11	12	
17.5	18.5	19.5	320
15	16	17	
17.5	18.5	19.5	
17.5	18.5	19.5	322
15	16	17	
17.5	18.5	19.5	
12.5	13.5	14.5	324
10	11	12	
12.5	13.5	14.5	
10	11	12	328
7.5	8.5	8.5	
10	11	12	
10	11	12	332
7.5	8.5	9.5	
10	11	12	
10	11	12	336
7.5	8.5	9.5	
10	11	12	
10	11	12	340
7.5	8.5	9.5	
10	11	12	
10	11	12	342
7.5	8.5	9.5	
10	11	12	

\* Higher number of cycles?












Online lifetime calculation ► [www.igus.com/chainflexlife](http://www.igus.com/chainflexlife)

Figures in brackets refer to chainflex® series

CF885/CF886 and CF895/CF896





chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]
		unsupported	gliding		
<b>Spindle cables/Single conductors</b>					
 CF885	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81
 CF885-PE	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81
 CF886	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81
 CF270-UL-D	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81
 CF300-UL-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312
 CFPE	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312
 CF310-UL	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312
 CF330-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312
 CF340	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312
<b>Medium voltage cables</b>					
 CFRANE-PUR	-4 / +14 +14 / +158 +158 / +176	32.81	19.69	164.1	≤ 1,312
 CFRANE	-4 / +14 +14 / +158 +158 / +176	32.81	19.69	164.1	≤ 1,312

<sup>(1)</sup> **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

# Guaranteed lifetime <sup>(1)</sup>

Bending radius min. [factor x d]	Bending radius min. [factor x d]	Bending radius min. [factor x d]	Page
5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *	
17.5	18.5	19.5	344
15	16	17	
17.5	18.5	19.5	
17.5	18.5	19.5	346
15	16	17	
17.5	18.5	19.5	
17.5	18.5	19.5	348
15	16	17	
17.5	18.5	19.5	
12.5	13.5	14.5	350
10	11	12	
12.5	13.5	14.5	
10	11	12	352
7.5	8.5	9.5	
10	11	12	
10	11	12	354
7.5	8.5	9.5	
10	11	12	
10	11	12	356
7.5	8.5	9.5	
10	11	12	
10	11	12	358
7.5	8.5	9.5	
10	11	12	
10	11	12	360
7.5	8.5	9.5	
10	11	12	
12.5	13.5	14.5	362
10	11	12	
12.5	13.5	14.5	
12.5	13.5	14.5	364
10	11	12	
12.5	13.5	14.5	

\* Higher number of cycles? Online lifetime calculation ► [www.igus.com/chainflexlife](http://www.igus.com/chainflexlife)  
 Figures in brackets refer to chainflex® series CF885 and CF886



# Motor cable | PVC | chainflex® CF885






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®






**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Flame-retardant

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
		<b>flexible</b>	min. 12 x d
		<b>fixed</b>	min. 8 x d
	<b>Temperature</b>	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
		<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
		<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
	<b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
	<b>a max.</b>		65.6 ft/s² (20 m/s²)
	<b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1

## Cable structure

	<b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance TPE mixture.
	<b>Conductor construction</b>	Conductors cabled with an optimized pitch length.
	<b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

	<b>Nominal voltage</b>	1000 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF885](http://www.igus.com/CF885)

36 month guarantee ... 1,354 types from stock ... no cutting charges












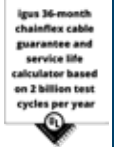
Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

# Class 3.1.1.1

## Properties and approvals

	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF885">www.igus.com/CF885</a>
	<b>NFFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	<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>CE</b>	Following 2014/35/EU



## Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF885-15-04	16	4 G 1.5	0.31	8.0	45.0	67	70.6	105
CF885-25-04	14	4 G 2.5	0.39	10.0	73.9	110	109.5	163
CF885-40-04	12	4 G 4.0	0.45	11.5	117.6	175	164.0	244
CF885-60-04	10	4 G 6.0	0.53	13.5	159.3	237	241.9	360
CF885-100-04	8	4 G 10.0	0.67	17.0	276.9	412	345.4	514
CF885-160-04	6	4 G 16.0	0.79	20.0	463.7	690	575.9	857

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



# Motor cable | PVC | chainflex® CF886






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®







**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant
- Variable Frequency Drive

## Dynamic Information

 Bend radius	<b>E-Chain® linear</b>	min. 15 x d
	<b>flexible</b>	min. 12 x d
	<b>fixed</b>	min. 8 x d
 Temperature	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
	<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	<b>unsupported</b>	9.84 ft/s (3 m/s)
 a max.		65.6 ft/s <sup>2</sup> (20 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

## Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
 Conductor construction	Conductors cabled with an optimized pitch length.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF886](http://www.igus.com/CF886)










36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

# Class 3.1.1.1

## Properties and approvals

	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF886">www.igus.com/CF886</a>
	<b>NFFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	<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>CE</b>	Following 2014/35/EU



## Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF886-15-04	16	4 G 1.5	0.35	9.0	55.1	82	80.0	119
CF886-25-04	14	4 G 2.5	0.41	10.5	88.7	132	121.6	181
CF886-40-04	12	4 G 4.0	0.47	12.0	137.1	204	176.7	263
CF886-60-04	10	4 G 6.0	0.57	14.5	180.8	269	253.3	377
CF886-100-04	8	4 G 10.0	0.73	18.5	307.8	458	387.7	577
CF886-160-04	6	4 G 16.0	0.83	21.0	510.7	760	557.1	829

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

# Motor cable | PVC | chainflex® CF210-UL






**36** 10,000,000  
Cycles guaranteed

**10 x d**  
Bend radius E-Chain®








**32.8 ft**  
Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Variable Frequency Drive

## Dynamic Information

 Bend radius	<b>E-Chain® linear flexible</b>	min. 10 x d min. 8 x d
	<b>fixed</b>	min. 5 x d
 Temperature	<b>E-Chain® linear flexible</b>	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	6.56 ft/s (2 m/s)
 a max.		164.1 ft/s <sup>2</sup> (50 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

## Cable structure

 Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Conductors cabled with short pitch.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 Intermediate layer	polyester tape over external layer
 Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Orange (similar to RAL 2003)

## Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF210-UL](http://www.igus.com/CF210-UL)














36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 4.2.2.1

### Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF210-UL">www.igus.com/CF210-UL</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
	<b>CE</b>	Following 2014/35/EU

### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	12.5	13.5	14.5
+59/+140	10	11	12
+140/+158	12.5	13.5	14.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF210-UL-15-04	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF210-UL-25-04	14	4 G 2.5	0.45	11.5	98.1	146	140.4	209
CF210-UL-40-04	12	4 G 4.0	0.51	13.0	131.0	195	193.5	288

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



# Motor cable | PVC | chainflex® CF30







**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®







**328.1 ft**  
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Oil-resistant
- Flame-retardant


## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 7.5 x d
	<b>flexible</b>	min. 6 x d
	<b>fixed</b>	min. 4 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
	<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 <b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	16.41 ft/s (5 m/s)
 <b>a max.</b>		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5
 <b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

## Cable structure

 <b>Conductor</b>	<b>16-10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228).
	<b>8-1 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
 <b>Conductor insulation</b>	
 <b>Conductor construction</b>	Conductors cabled with short pitch length around a high-tensile strength core.
 <b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 <b>Outer jacket</b>	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)
 <b>CFRIP®</b>	Strip 50% faster: a tear strip is molded into the outer jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

 <b>Nominal voltage</b>	1000 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF30](http://www.igus.com/CF30)

36 month guarantee ... 1,354 types from stock ... no cutting charges














# Class 5.5.2.2

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF30  
 PVC  
 7.5 x d

## Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF30">www.igus.com/CF30</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
	<b>CE</b>	Following 2014/35/EU

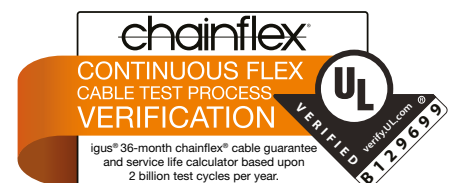
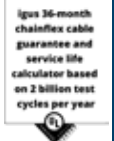
## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



# Motor cable | PVC | chainflex® CF30

Strip cables 50 % faster

igus® chainflex® CF30

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF30-15-04	16	4 G 1.5	0.31	8.0	41.0	61	69.9	104
CF30-25-04	14	4 G 2.5	0.39	10.0	67.2	100	111.5	166
CF30-25-05	14	5 G 2.5	0.43	11.0	83.3	124	136.4	203
CF30-40-04	12	4 G 4.0	0.45	11.5	109.5	163	167.3	249
CF30-40-05	12	5 G 4.0	0.49	12.5	137.1	204	202.9	302
CF30-60-04	10	4 G 6.0	0.53	13.5	159.3	237	230.5	343
CF30-60-05	10	5 G 6.0	0.59	15.0	199.6	297	275.5	410
CF30-100-04	8	4 G 10.0	0.65	16.5	273.5	407	368.2	548
CF30-100-05	8	5 G 10.0	0.77	19.5	346.1	515	459.6	684
CF30-160-04	6	4 G 16.0	0.79	20.0	434.1	646	555.0	826
CF30-160-05	6	5 G 16.0	0.93	23.5	547.7	815	717.0	1067
CF30-250-04	4	4 G 25.0	0.98	25.0	681.4	1014	887.0	1320
CF30-350-04	2	4 G 35.0	1.12	28.5	967.0	1439	1206.2	1795
CF30-500-04	1	4 G 50.0	1.34	34.0	1384.9	2061	1698.7	2528

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



# Class 5.5.2.2

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF30  
 PVC  
 7.5 x d



Order example: **CF30-15-04** – To your desired length  
 CF30 chainflex® series -15 Code nominal cross section -04 Number of conductors



Online order ► [www.chainflex.com/CF30](http://www.chainflex.com/CF30)



Delivery time 24hrs or today.  
 Delivery time means time until goods are shipped.

## cost down...



...life up

### Reduce cost, improve technology, now!

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: Reduce cost with CF885 ...

Guarantee  
 igus chainflex

**36**

up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



# Motor cable | PVC | chainflex® CF31






**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®









**328.1 ft**  
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Variable Frequency Drive



## Dynamic Information

 Bend radius	<b>E-Chain® linear</b>	min. 7.5 x d
	<b>flexible</b>	min. 6 x d
	<b>fixed</b>	min. 4 x d
 Temperature	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
	<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s² (80 m/s²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

## Cable structure

 Conductor	<b>16-10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228).
	<b>8-2/0 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► [www.igus.com/CF31](http://www.igus.com/CF31)

36 month guarantee ... 1,354 types from stock ... no cutting charges














# Class 5.5.2.1

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF31  
 PVC  
 7.5 x d

## Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF31">www.igus.com/CF31</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
	<b>CE</b>	Following 2014/35/EU

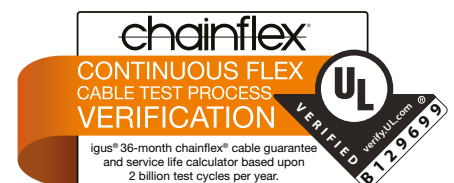
## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



# Motor cable | PVC | chainflex® CF31

Strip cables 50 % faster

igus® chainflex® CF31

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/ft]	[kg/km]	[lbs/ft]
CF31-15-04	16	4 G 1.5	0.39	10.0	59.8	89	105.5	157
CF31-25-04	14	4 G 2.5	0.45	11.5	89.4	133	148.5	221
CF31-25-05	14	5 G 2.5	0.51	13.0	109.5	163	182.1	271
CF31-40-04	12	4 G 4.0	0.51	13.0	136.4	203	201.6	300
CF31-40-05	12	5 G 4.0	0.57	14.5	173.4	258	237.9	354
CF31-60-04	10	4 G 6.0	0.63	16.0	193.5	288	305.7	455
CF31-60-05	10	5 G 6.0	0.67	17.0	239.2	356	357.5	532
CF31-100-04	8	4 G 10.0	0.73	18.5	314.5	468	450.2	670
CF31-100-05	8	5 G 10.0	0.85	21.5	409.2	609	575.9	857
CF31-160-04	6	4 G 16.0	0.91	23.0	495.9	738	695.5	1035
CF31-250-04	4	4 G 25.0	1.08	27.5	774.8	1153	1065.7	1586
CF31-350-04	2	4 G 35.0	1.22	31.0	1069.8	1592	1413.8	2104
CF31-500-04	1	4 G 50.0	1.44	36.5	1494.5	2224	1950.1	2902
CF31-700-04	2/0	4 G 70.0	1.69	43.0	2152.3	3203	2804.1	4173

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



Order example: **CF31-15-04** – To your desired length

CF31 chainflex® series -15 Code nominal cross section -04 Number of conductors



Online order ► [www.chainflex.com/CF31](http://www.chainflex.com/CF31)



Delivery time 24hrs or today.

Delivery time means time until goods are shipped.

cost down...



...life up

**Reduce cost, improve technology, now!**

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: [Reduce cost with CF886 ...](#)

Configurators ► [www.igus.com/CF31](http://www.igus.com/CF31)

# Class 5.5.2.1

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF31  
 PVC  
 7.5 x d



chainflex® CF31 motor cable in a fast picker

Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

igus 36-month  
 chainflex cable  
 guarantee and  
 service life  
 calculator based  
 on 2 billion test  
 cycles per year



Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

chainflex  
 CONTINUOUS FLEX  
 CABLE TEST PROCESS  
 VERIFICATION

igus® 36-month chainflex® cable guarantee  
 and service life calculator based upon  
 2 billion test cycles per year.

UL  
 www.ul.com  
 VERIFIED  
 B129699

# Motor cable | iguPUR | chainflex® CF895






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®






**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
		<b>flexible</b>	min. 12 x d
		<b>fixed</b>	min. 8 x d
	<b>Temperature</b>	<b>E-Chain® linear</b>	-4 °F to +176 °F (-20 °C to +80 °C)
		<b>flexible</b>	-40 °F to +176 °F (-40 °C to +80 °C)
		<b>fixed</b>	-58 °F to +176 °F (-50 °C to +80 °C)
	<b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
	<b>a max.</b>		65.6 ft/s² (20 m/s²)
	<b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1

## Cable structure

	<b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance TPE mixture.
	<b>Conductor construction</b>	Conductors cabled with an optimized pitch length.
	<b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

	<b>Nominal voltage</b>	1000 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)



Example image

Configurators ► [www.igus.com/CF895](http://www.igus.com/CF895)

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF895  
igusPUR  
15 x d

## Class 3.1.3.1

### Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF895">www.igus.com/CF895</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	<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>CE</b>	Following 2014/35/EU

### Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

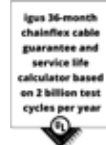
\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF895-15-04	16	4 G 1.5	0.31	8.0	45.0	67	67.9	101
CF895-25-04	14	4 G 2.5	0.39	10.0	73.9	110	102.8	153
CF895-40-04	12	4 G 4.0	0.45	11.5	117.6	175	160.6	239
CF895-60-04	10	4 G 6.0	0.53	13.5	176.1	262	237.2	353
CF895-100-04	8	4 G 10.0	0.67	17.0	293.0	436	364.9	543
CF895-160-04	6	4 G 16.0	0.79	20.0	438.8	653	553.7	824

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core





# Motor cable | iguPUR | chainflex® CF896






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®







**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant
- Variable Frequency Drive



## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
	<b>flexible</b>	min. 12 x d
	<b>fixed</b>	min. 8 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	-4 °F to +176 °F (-20 °C to +80 °C)
	<b>flexible</b>	-40 °F to +176 °F (-40 °C to +80 °C)
	<b>fixed</b>	-58 °F to +176 °F (-50 °C to +80 °C)
 <b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
 <b>a max.</b>		65.6 ft/s <sup>2</sup> (20 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1

## Cable structure

 <b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
 <b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance TPE mixture.
 <b>Conductor construction</b>	Conductors cabled with an optimized pitch length.
 <b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 <b>Overall shield</b>	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
 <b>Outer jacket</b>	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

 <b>Nominal voltage</b>	1000 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF896](http://www.igus.com/CF896)

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF896  
igusPUR  
15 x d

## Class 3.1.3.1

### Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF896">www.igus.com/CF896</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	<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>CE</b>	Following 2014/35/EU

### Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

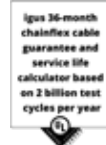
\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF896-15-04	16	4 G 1.5	0.35	9.0	55.1	82	82.0	122
CF896-25-04	14	4 G 2.5	0.41	10.5	88.7	132	116.3	173
CF896-40-04	12	4 G 4.0	0.47	12.0	137.1	204	172.7	257
CF896-60-04	10	4 G 6.0	0.57	14.5	205.6	306	254.0	378
CF896-100-04	8	4 G 10.0	0.73	18.5	307.8	458	438.8	653
CF896-160-04	6	4 G 16.0	0.83	21.0	476.4	709	561.1	835

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



# Motor cable | PUR | chainflex® CF270-UL-D






**36** 10,000,000  
Cycles guaranteed

**10 x d**  
Bend radius E-Chain®








**32.8 ft**  
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drive

## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 10 x d
	<b>flexible</b>	min. 8 x d
	<b>fixed</b>	min. 5 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	-13 °F to +176 °F (-25 °C to +80 °C)
	<b>flexible</b>	-40 °F to +176 °F (-40 °C to +80 °C)
	<b>fixed</b>	-58 °F to +176 °F (-50 °C to +80 °C)
 <b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	6.56 ft/s (2 m/s)
 <b>a max.</b>		164.1 ft/s <sup>2</sup> (50 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

## Cable structure

 <b>Conductor</b>	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
 <b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance XLPE mixture.
 <b>Conductor construction</b>	Conductors cabled with short pitch.
 <b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 <b>Intermediate layer</b>	polyester tape over external layer
 <b>Overall shield</b>	Bending-resistant tinned copper braid. 80 % optical coverage
 <b>Outer jacket</b>	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)

## Electrical Information

 <b>Nominal voltage</b>	1000 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

Example image

Configurators ► [www.igus.com/CF270-UL-D](http://www.igus.com/CF270-UL-D)

















36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 4.2.3.1

### Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
	<b>Offshore</b>	MUD-resistant following NEK 606 - status 2009
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF270-UL-D">www.igus.com/CF270-UL-D</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	<b>DESINA</b>	According to VDW, DESINA standardization.
	<b>CE</b>	Following 2014/35/EU

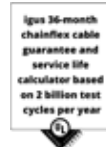
### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



# Motor cable | PUR | chainflex® CF270-UL-D

igus® chainflex® CF270.UL.D



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF270-UL-07-04-D	18	4 G 0.75	0.31	8.0	30.9	46	63.8	95
CF270-UL-15-04-D	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF270-UL-25-04-D	14	4 G 2.5	0.45	11.5	98.1	146	141.1	210
CF270-UL-40-04-D	12	4 G 4.0	0.51	13.0	131.0	195	198.9	296
CF270-UL-60-04-D	10	4 G 6.0	0.59	15.0	194.2	289	279.5	416
CF270-UL-100-04-D	8	4 G 10.0	0.71	18.0	301.7	449	432.7	644
CF270-UL-160-04-D	6	4 G 16.0	0.87	22.0	469.0	698	670.0	997
CF270-UL-250-04-D	4	4 G 25.0	1.00	25.5	702.2	1045	930.0	1384
CF270-UL-350-04-D	2	4 G 35.0	1.30	33.0	1021.4	1520	1418.5	2111

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



Order example: **CF270-UL-40-15-02-01-D** – To your desired length  
CF270-UL-D chainflex® series -07 Code nominal cross section -4 Number of conductors



Online order ► [www.chainflex.com/CF270-UL-D](http://www.chainflex.com/CF270-UL-D)



Delivery time 24hrs or today.  
Delivery time means time until goods are shipped.

cost down...



...life up

**Reduce cost, improve technology, now!**

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: [Reduce cost with CF31 ...](#)

Configurators ► [www.igus.com/CF270-UL-D](http://www.igus.com/CF270-UL-D)

# Class 4.2.3.1

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF270-UL-D  
 PUR  
 10 x d



chainflex® CF270.UL.D motor cable in a system for sharpening knives

Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

igus 36-month  
 chainflex cable  
 guarantee and  
 service life  
 calculator based  
 on 2 billion test  
 cycles per year

- CFRIP
- UL US LISTED
- RUUS
- NFPA
- CEPA
- ETL
- EAC
- TP
- RoHS
- Clean-Room
- DESINA

CE

Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

chainflex  
 CONTINUOUS FLEX  
 CABLE TEST PROCESS  
 VERIFICATION  
 UL  
 igus® 36-month chainflex® cable guarantee  
 and service life calculator based upon  
 2 billion test cycles per year.  
 www.igus.com  
 VERIFIED  
 B129699





# Motor cable | PUR | chainflex® CF27-D






**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®









**328.1 ft**  
Travel distance E-Chain®

- For very high mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drive

## Dynamic Information

 Bend radius	<b>E-Chain® linear flexible</b>	min. 7.5 x d min. 6 x d
	<b>fixed</b>	min. 4 x d
 Temperature	<b>E-Chain® linear flexible</b>	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	<b>fixed</b>	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

## Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Cores wound around a high tensile strength centre element.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 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, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► [www.igus.com/CF27-D](http://www.igus.com/CF27-D)

36 month guarantee ... 1,354 types from stock ... no cutting charges



Example image

igus® chainflex® CF27.D




















# Class 6.5.3.1

Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF27-D  
PUR  
7.5 x d

## Properties and approvals

	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
	<b>Offshore</b>	MUD-resistant following NEK 606 - status 2009
	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF27-D">www.igus.com/CF27-D</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>DNV-GL</b>	Type approval certificate No. TAE00003XA
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	<b>DESINA</b>	According to VDW, DESINA standardization.
	<b>CE</b>	Following 2014/35/EU

## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	10	11	12
+5/+158	7.5	8.5	9.5
+158/+176	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CFRIP  
iF  
DESIGN AWARD 2016

UL US LISTED

UL US

NFPA

DNV-GL

DNV-GL

EAC

CTP

RoHS

Clean-Room

DESINA

CE

# Motor cable | PUR | chainflex® CF27-D

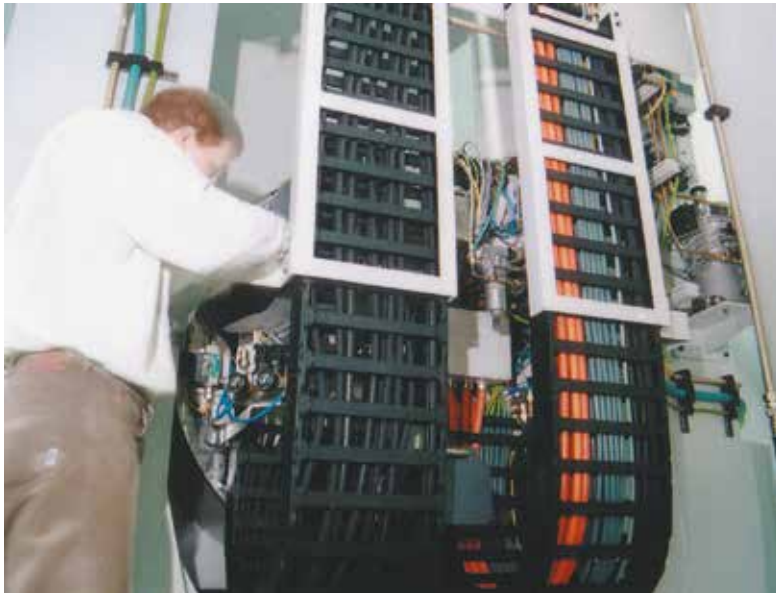
Strip cables 50 % faster

igus® chainflex® CF27.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF27-07-04-D	18	4 G 0.75	0.37	9.5	37.0	55	77.3	115
CF27-15-04-D	16	4 G 1.5	0.43	11.0	60.5	90	110.9	165
CF27-25-04-D	14	4 G 2.5	0.49	12.5	90.7	135	155.2	231
CF27-500-04-D	1	4 G 50.0	1.46	37.0	1507.9	2244	1892.9	2817

**Note:** The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



Modular design, easy to retrofit: igus® E4 E-Chain® and chainflex® cables.

# Class 6.5.3.1

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF27-D  
 PUR  
 7.5 x d



Order example: **CF27-07-04-D** – To your desired length  
 CF27-D chainflex® series .-07 Code nominal cross section .-4 Number of conductors



Online order ► [www.chainflex.com/CF27-D](http://www.chainflex.com/CF27-D)



Delivery time 24hrs or today.  
 Delivery time means time until goods are shipped.

cost down...



...life up

**Reduce cost, improve technology, now!**

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: *Maximum abrasion resistance with CF38 ...*

Guarantee  
 igus chainflex

**36**

up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



# Motor cable | TPE | chainflex® CF34-UL-D

**36** 10,000,000  
Cycles guaranteed







**7.5 x d**  
Bend radius E-Chain®

**1312.4 ft**  
Travel distance E-Chain®







- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

New conductor insulation with UL 90 °C

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear flexible fixed</b>	min. 7.5 x d min. 6 x d min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear flexible fixed</b>	-31 °F to +194 °F (-35 °C to +90 °C) -49 °F to +194 °F (-45 °C to +90 °C) -58 °F to +194 °F (-50 °C to +90 °C)
	<b>v max.</b>	<b>unsupported gliding</b>	32.81 ft/s (10 m/s) 19.69 ft/s (6 m/s)
	<b>a max.</b>		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	<b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

## Cable structure

	<b>Conductor</b>	<b>16-10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228). <b>8-4 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
	<b>Conductor insulation</b>	
	<b>Conductor construction</b>	Conductors cabled with short pitch length around a high-tensile strength core.
	<b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)
	<b>CFRIP®</b>	Strip 50% faster: a tear strip is molded into the outer jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

	<b>Nominal voltage</b>	1000 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

Configurators ► [www.igus.com/CF34-UL-D](http://www.igus.com/CF34-UL-D)

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 6.6.4.2

### Properties and approvals

	<b>UV resistance</b>	High
	<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>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +90C See data sheet for details ► <a href="http://www.igus.com/CF34-UL-D">www.igus.com/CF34-UL-D</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	<b>DNV-GL</b>	Type approval certificate No. TAE00003X9
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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, material/cable tested by IPA according to DIN EN ISO standard 14644-1
	<b>DESINA</b>	According to VDW, DESINA standardization.
	<b>CE</b>	Following 2014/35/EU

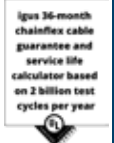
### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications



# Motor cable | TPE | chainflex® CF34-UL-D

Strip cables 50 % faster



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF34-UL-15-04-D	16	4 G 1.5	0.31	8.0	41.0	61	68.5	102
CF34-UL-25-04-D	14	4 G 2.5	0.39	10.0	67.2	100	106.8	159
CF34-UL-40-04-D	12	4 G 4.0	0.45	11.5	109.5	163	158.6	236
CF34-UL-60-04-D	10	4 G 6.0	0.53	13.5	159.3	237	223.1	332
CF34-UL-60-05-D	10	5 G 6.0	0.59	15.0	199.6	297	272.8	406
CF34-UL-100-04-D	8	4 G 10.0	0.65	16.5	273.5	407	360.8	537
CF34-UL-100-05-D	8	5 G 10.0	0.77	19.5	346.1	515	450.2	670
CF34-UL-160-04-D	6	4 G 16.0	0.79	20.0	434.1	646	550.3	819
CF34-UL-160-05-D	6	5 G 16.0	0.89	22.5	547.7	815	678.0	1009
CF34-UL-250-04-D	4	4 G 25.0	0.96	24.5	681.4	1014	854.1	1271
CF34-UL-100-04-O-PE-D	8	4 x 10.0	0.65	16.5	273.5	407	360.8	537
CF34-UL-160-04-O-PE-D	6	4 x 16.0	0.79	20.0	434.1	646	550.3	819

**Note:** The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core






# Class 6.6.4.2

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

**CF34-UL-D**  
**TPE**  
**7.5 x d**



-  **Order example: CF34-UL-15-04-D – To your desired length**  
 CF34-UL-D chainflex® series -15 Code nominal cross section -04 Number of conductors
-  Online order ► [www.chainflex.com/CF34-UL-D](http://www.chainflex.com/CF34-UL-D)
-  Delivery time 24hrs or today.  
 Delivery time means time until goods are shipped.

## cost down...



...life up

### Reduce cost, improve technology, now!

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: Reduce cost with CF300.UL.D ...

Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

chainflex  
 CONTINUOUS FLEX  
 CABLE TEST PROCESS  
 VERIFICATION

UL  
 www.igus.com  
 8129699

igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

# Motor cable | TPE | chainflex® CF35-UL

**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®

**1312.4 ft**  
Travel distance E-Chain®









- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drive

New conductor  
insulation with  
UL 90 °C

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear</b>	min. 7.5 x d
		<b>flexible</b>	min. 6 x d
		<b>fixed</b>	min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear</b>	-31 °F to +194 °F (-35 °C to +90 °C)
		<b>flexible</b>	-49 °F to +194 °F (-45 °C to +90 °C)
		<b>fixed</b>	-58 °F to +194 °F (-50 °C to +90 °C)
	<b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
		<b>gliding</b>	19.69 ft/s (6 m/s)
	<b>a max.</b>		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

## Cable structure

	<b>Conductor</b>	<b>20-10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228).
		<b>8-1 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
	<b>Conductor insulation</b>	
	<b>Conductor construction</b>	Conductors cabled with short pitch length around a high-tensile strength core.
	<b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
	<b>Inner jacket</b>	TPE mixture adapted to suit the requirements in E-Chains®.
	<b>Overall shield</b>	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)
	<b>CFRIP®</b>	Strip 50% faster: a tear strip is molded into the inner jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

Example image

Configurators ► [www.igus.com/CF35-UL](http://www.igus.com/CF35-UL)

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 6.6.4.1

### Electrical Information

 <b>Nominal voltage</b>	1000 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

### Properties and approvals

 <b>UV resistance</b>	High
 <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>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
 <b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
 <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/CSA AWM</b>	1000 V, +90C
 <b>NFPA 79</b>	See data sheet for details ► <a href="http://www.igus.com/CF35-UL">www.igus.com/CF35-UL</a> Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 <b>DNV-GL</b>	Type approval certificate No. TAE00003X9
 <b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 <b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 <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 CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
 <b>CE</b>	Following 2014/35/EU

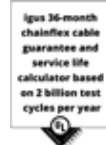
### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications



# Motor cable | TPE | chainflex® CF35-UL

Strip cables 50 % faster

igus® chainflex® CF35.UL

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF35-UL-05-04	20	4 G 0.5	0.30	7.5	28.2	42	53.1	79
CF35-UL-07-04	18	4 G 0.75	0.31	8.0	39.0	58	60.5	90
CF35-UL-15-04	16	4 G 1.5	0.39	10.0	59.8	89	98.1	146
CF35-UL-25-04	14	4 G 2.5	0.45	11.5	89.4	133	139.1	207
CF35-UL-40-04	12	4 G 4.0	0.51	13.0	136.4	203	194.9	290
CF35-UL-60-04	10	4 G 6.0	0.63	16.0	193.5	288	284.2	423
CF35-UL-100-04	8	4 G 10.0	0.73	18.5	314.5	468	424.7	632
CF35-UL-160-04	6	4 G 16.0	0.91	23.0	495.9	738	654.5	974
CF35-UL-250-04	4	4 G 25.0	1.08	27.5	774.8	1153	995.2	1481
CF35-UL-60-03-O-PE <sup>11)</sup>	10	3 x 6.0	0.57	14.5	153.9	229	231.2	344
CF35-UL-250-03-O-PE <sup>11)</sup>	4	3 x 25.0	0.96	24.5	591.3	880	781.5	1163

<sup>11)</sup> Phase-out model

**Note:** The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

# Class 6.6.4.1

Basic requirements  
 Travel distance  
 Oil resistance  
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF35-UL  
 TPE  
 7.5 x d



Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Order example: **CF35-UL-05-04** – To your desired length  
 CF35-UL chainflex® series -05 Code nominal cross section -04 Number of conductors



Online order ► [www.chainflex.com/CF35-UL](http://www.chainflex.com/CF35-UL)



Delivery time 24hrs or today.  
 Delivery time means time until goods are shipped.



## cost down...



...life up

### Reduce cost, improve technology, now!

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: Reduce cost with CF310.UL ...



Guarantee  
 igus chainflex  
**36**  
 up to 36 months guarantee

chainflex  
 CONTINUOUS FLEX  
 CABLE TEST PROCESS  
 VERIFICATION

UL  
 www.igus.com  
 8129699

igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

# Motor cable | TPE | chainflex® CF37-D







**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®







**1312.4 ft**  
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant


## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear flexible</b>	min. 7.5 x d min. 6 x d
		<b>fixed</b>	min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear flexible</b>	-31 °F to +194 °F (-35 °C to +90 °C) -58 °F to +194 °F (-50 °C to +90 °C)
		<b>fixed</b>	-67 °F to +194 °F (-55 °C to +90 °C)
	<b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
		<b>gliding</b>	19.69 ft/s (6 m/s)
	<b>a max.</b>		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	<b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2



## Cable structure

	<b>Conductor</b>	<b>16-10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228). <b>8-1 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance XLPE mixture.
	<b>Conductor construction</b>	Conductors cabled with short pitch length around a high-tensile strength core.
	<b>Color code</b>	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)
	<b>CFRIP®</b>	Strip 50% faster: a tear strip is molded into the outer jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

	<b>Nominal voltage</b>	600 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

	<b>UV resistance</b>	High
	<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

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 7.6.4.2

-  **Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
-  **Halogen-free** Following DIN EN 60754
-  **UL verified** Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
-  **EAC** Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
-  **REACH** In accordance with regulation (EC) No. 1907/2006 (REACH)
-  **Lead-free** Following 2011/65/EC (RoHS-II/RoHS-III)
-  **Cleanroom** 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
-  **DESINA** According to VDW, DESINA standardization.
-  **CE** Following 2014/35/EU

### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/+13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

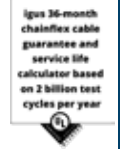
\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF37-15-04-D	16	4 G 1.5	0.31	8.0	41.0	61	63.8	95
CF37-25-04-D	14	4 G 2.5	0.39	10.0	67.2	100	100.1	149
CF37-40-04-D	12	4 G 4.0	0.45	11.5	109.5	163	148.5	221
CF37-60-04-D	10	4 G 6.0	0.53	13.5	159.3	237	213.0	317
CF37-60-05-D	10	5 G 6.0	0.59	15.0	199.6	297	260.1	387
CF37-100-04-D	8	4 G 10.0	0.65	16.5	273.5	407	338.0	503
CF37-100-05-D	8	5 G 10.0	0.75	19.0	346.1	515	426.0	634
CF37-160-04-D	6	4 G 16.0	0.79	20.0	434.1	646	519.4	773
CF37-160-05-D	6	5 G 16.0	0.89	22.5	547.7	815	647.1	963
CF37-250-04-D	4	4 G 25.0	0.94	24.0	681.4	1014	808.4	1203
CF37-500-03-O-PE-D	1	3 x 50.0	1.18	30.0	1028.1	1530	1227.0	1826

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



# Motor cable | TPE | chainflex® CF38






**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®









**1312.4 ft**  
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drive



## Dynamic Information

 Bend radius	<b>E-Chain® linear</b>	min. 7.5 x d
	<b>flexible</b>	min. 6 x d
	<b>fixed</b>	min. 4 x d
 Temperature	<b>E-Chain® linear</b>	-31 °F to +194 °F (-35 °C to +90 °C)
	<b>flexible</b>	-58 °F to +194 °F (-50 °C to +90 °C)
	<b>fixed</b>	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	19.69 ft/s (6 m/s)
 a max.		262.5 ft/s <sup>2</sup> (80 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

## Cable structure

 Conductor	<b>16 - 10 AWG:</b> Conductor consisting of bare copper wires (according to DIN EN 60228). <b>8 - 1 AWG:</b> Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 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: Jet black (similar to RAL 9005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► <a href="http://www.igus.com/CFRIP">www.igus.com/CFRIP</a>

## Electrical Information

 Nominal voltage	600 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► [www.igus.com/CF38](http://www.igus.com/CF38)

36 month guarantee ... 1,354 types from stock ... no cutting charges



Example image











# Class 7.6.4.1

Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF38  
TPE  
7.5 x d

## Properties and approvals

	<b>UV resistance</b>	High
	<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>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<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>CE</b>	Following 2014/35/EU

## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF38-15-04	16	4 G 1.5	0.39	10.0	59.8	89	94.1	140
CF38-25-04	14	4 G 2.5	0.45	11.5	89.4	133	133.0	198
CF38-40-04	12	4 G 4.0	0.51	13.0	136.4	203	188.2	280
CF38-60-04	10	4 G 6.0	0.63	16.0	193.5	288	274.8	409
CF38-100-04	8	4 G 10.0	0.73	18.5	314.5	468	411.9	613
CF38-160-04	6	4 G 16.0	0.91	23.0	495.9	738	633.7	943
CF38-250-04	4	4 G 25.0	1.06	27.0	774.8	1153	962.3	1432
CF38-100-03-O-PE	8	3 x 10.0	0.67	17.0	240.6	358	332.0	494
CF38-160-03-O-PE <sup>11)</sup>	6	3 x 16.0	0.81	20.5	379.7	565	512.0	762
CF38-500-03-O-PE	1	3 x 50.0	1.30	33.0	1151.8	1714	1430.6	2129

<sup>11)</sup> Phase-out model

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... [www.igus.com/ul-verified](http://www.igus.com/ul-verified)

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CFRIP  
iF  
DESIGN AWARD 2016

UL US LISTED

CFRIP US

NFPA

CIPA

UL LISTED

EAC

RoHS

Clean-Room

UL LISTED

CE

# Spindle cable/Single core | PVC | chainflex® CF885






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®




**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Flame-retardant

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
		<b>flexible</b>	min. 12 x d
		<b>fixed</b>	min. 8 x d
	<b>Temperature</b>	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
		<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
		<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
	<b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
	<b>a max.</b>		65.6 ft/s² (20 m/s²)
	<b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1





## Cable structure

	<b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality PVC mixture.
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

	<b>Nominal voltage</b>	600 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

	<b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	600 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF885">www.igus.com/CF885</a>

Example image






Configurators ► [www.igus.com/CF885](http://www.igus.com/CF885)

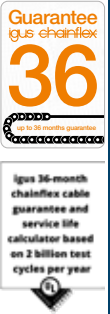
36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

# Class 3.1.1.1

-  **NFPA 79** Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
-  **EAC** Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
-  **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



## Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas


- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF885-40-01	12	1 x 4.0	0.30	7.5	27.6	41	52.4	78
CF885-60-01	10	1 x 6.0	0.31	8.0	41.0	61	67.2	100
CF885-100-01	8	1 x 10.0	0.37	9.5	67.2	100	105.5	157
CF885-160-01	6	1 x 16.0	0.45	11.5	106.8	159	159.3	237
CF885-250-01	4	1 x 25.0	0.49	12.5	166.6	248	218.4	325
CF885-350-01	2	1 x 35.0	0.59	15.0	233.2	347	318.5	474
CF885-500-01	1	1 x 50.0	0.65	16.5	332.6	495	432.7	644
CF885-700-01 <sup>11)</sup>	2/0	1 x 70.0	0.73	18.5	461.0	686	567.1	844
CF885-950-01 <sup>11)</sup>	3/0	1 x 95.0	0.81	20.5	625.6	931	688.1	1024

<sup>11)</sup> Phase-out model

**Note:** The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core





# Spindle cable/Single core | PVC | chainflex® CF885-PE






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®





**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Flame-retardant


## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
	<b>flexible</b>	min. 12 x d
	<b>fixed</b>	min. 8 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
	<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 <b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
 <b>a max.</b>		65.6 ft/s² (20 m/s²)
 <b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1





## Cable structure

 <b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
 <b>Conductor insulation</b>	Mechanically high-quality PVC mixture.
 <b>Color code</b>	Green-yellow
 <b>Outer jacket</b>	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

 <b>Nominal voltage</b>	600 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

 <b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
 <b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
 <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/CSA AWM</b>	600 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF885-PE">www.igus.com/CF885-PE</a>

Example image

Configurators ► [www.igus.com/CF885-PE](http://www.igus.com/CF885-PE)






36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

## Class 3.1.1.1

 <b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 <b>EAC</b>	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
 <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>CE</b>	Following 2014/35/EU

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

### Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF885-PE-25-01	14	1 G 2.5	0.26	6.5	16.8	25	39.6	59
CF885-PE-40-01	12	1 G 4.0	0.30	7.5	41.0	61	55.8	83
CF885-PE-60-01	10	1 G 6.0	0.31	8.0	41.0	61	67.2	100
CF885-PE-100-01	8	1 G 10.0	0.37	9.5	67.2	100	104.2	155
CF885-PE-160-01	6	1 G 16.0	0.43	11.0	106.8	159	151.9	226
CF885-PE-250-01	4	1 G 25.0	0.49	12.5	166.6	248	229.8	342

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

CFRIP

UL LISTED

RUUS

NFPA

CIPA

UL

EAC

RoHS

CE

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

chainflex  
CONTINUOUS FLEX  
CABLE TEST PROCESS  
VERIFICATION

UL  
VERIFIED  
B129699

igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

# Spindle cable/Single core | PVC | chainflex® CF886






**36** 5,000,000  
Cycles guaranteed

**15 x d**  
Bend radius E-Chain®





**32.8 ft**  
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant
- Variable Frequency Drives



## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 15 x d
	<b>flexible</b>	min. 12 x d
	<b>fixed</b>	min. 8 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	+41 °F to +158 °F (+5 °C to +70 °C)
	<b>flexible</b>	+23 °F to +158 °F (-5 °C to +70 °C)
	<b>fixed</b>	+5 °F to +158 °F (-15 °C to +70 °C)
 <b>v max.</b>	<b>unsupported</b>	9.84 ft/s (3 m/s)
 <b>a max.</b>		65.6 ft/s <sup>2</sup> (20 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances up to 32.8 ft (10 m), Class 1






## Cable structure

 <b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
 <b>Conductor insulation</b>	Mechanically high-quality PVC mixture.
 <b>Overall shield</b>	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
 <b>Outer jacket</b>	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

## Electrical Information

 <b>Nominal voltage</b>	600 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

 <b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
 <b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
 <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/CSA AWM</b>	600 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF886">www.igus.com/CF886</a>
 <b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Example image

Configurators ► [www.igus.com/CF886](http://www.igus.com/CF886)

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

## Class 3.1.1.1



EAC Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)



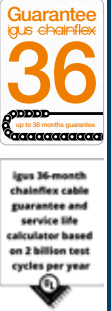
In accordance with regulation (EC) No. 1907/2006 (REACH)



Following 2011/65/EC (RoHS-II/RoHS-III)



Following 2014/35/EU



### Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF886-160-01	6	1 x 16.0	0.45	11.5	125.0	186	176.1	262
CF886-250-01	4	1 x 25.0	0.51	13.0	188.2	280	243.9	363
CF886-350-01	2	1 x 35.0	0.61	15.5	264.8	394	359.5	535

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

### cost down...



...life up

### Reduce cost, improve technology, now!

Do the chainflex® price check now ...

[www.igus.com/info/cable-price-check](http://www.igus.com/info/cable-price-check)

... just one idea for you: Reduce bend radius with CF340 ...



# Spindle cable/Single core | PUR | chainflex® CF270-UL-D



**36** 10,000,000  
Cycles guaranteed

**10 x d**  
Bend radius E-Chain®





**32.8 ft**  
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drives


## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 10 x d
	<b>flexible</b>	min. 8 x d
	<b>fixed</b>	min. 5 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	-13 °F to +176 °F (-25 °C to +80 °C)
	<b>flexible</b>	-40 °F to +176 °F (-40 °C to +80 °C)
	<b>fixed</b>	-58 °F to +176 °F (-50 °C to +80 °C)
 <b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	6.56 ft/s (2 m/s)
 <b>a max.</b>		164.1 ft/s <sup>2</sup> (50 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2






## Cable structure

 <b>Conductor</b>	Conductor cable consisting of pre-leads (following DIN EN 60228).
 <b>Conductor insulation</b>	Mechanically high-quality, especially low-capacitance XLPE mixture.
 <b>Overall shield</b>	Bending-resistant tinned copper braid. 80 % optical coverage
 <b>Outer jacket</b>	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)

## Electrical Information

 <b>Nominal voltage</b>	1000 V
 <b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

 <b>UV resistance</b>	Medium
 <b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
 <b>Offshore</b>	MUD-resistant following NEK 606 - status 2009
 <b>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
 <b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Configurators ► [www.igus.com/CF270-UL-D](http://www.igus.com/CF270-UL-D)

36 month guarantee ... 1,354 types from stock ... no cutting charges



# Spindle cable/Single core | TPE | chainflex® CF300-UL-D







**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®




**1312.4 ft**  
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear flexible</b>	min. 7.5 x d min. 6 x d
		<b>fixed</b>	min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear flexible</b>	-31 °F to +194 °F (-35 °C to +90 °C) -49 °F to +194 °F (-45 °C to +90 °C)
		<b>fixed</b>	-58 °F to +194 °F (-50 °C to +90 °C)
	<b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
		<b>gliding</b>	19.69 ft/s (6 m/s)
	<b>a max.</b>		328.1 ft/s <sup>2</sup> (100 m/s <sup>2</sup> )
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	<b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2








## Cable structure

	<b>Conductor</b>	Conductor cable consisting of pre-leads (following DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality TPE mixture.
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)

## Electrical Information

	<b>Nominal voltage</b>	1000 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

	<b>UV resistance</b>	High
	<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>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF300-UL-D">www.igus.com/CF300-UL-D</a>
	<b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9









Example image

igus chainflex® CF300-UL-D



Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

## Class 6.6.4.2

	<b>DNV-GL</b>	Type approval certificate No. TAE00003XC
	<b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	<b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	<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 CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
	<b>DESINA</b>	According to VDW, DESINA standardization.
	<b>CE</b>	Following 2014/35/EU

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month  
chainflex cable  
guarantee and  
service life  
calculator based  
on 2 billion test  
cycles per year

CFRIP II

UL US LISTED

RU US

NFPA

CFRIP

DNV-GL

### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281 ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF300-UL-40-01-D	12	1 x 4.0	0.24	6.0	27.6	41	39.6	59
CF300-UL-60-01-D	10	1 x 6.0	0.28	7.0	41.0	61	55.8	83
CF300-UL-100-01-D	8	1 x 10.0	0.30	7.5	67.2	100	83.3	124
CF300-UL-160-01-D	6	1 x 16.0	0.37	9.5	106.8	159	131.0	195
CF300-UL-250-01-D	4	1 x 25.0	0.45	11.5	166.6	248	197.6	294
CF300-UL-350-01-D	2	1 x 35.0	0.49	12.5	233.2	347	265.4	395
CF300-UL-500-01-D	1	1 x 50.0	0.57	14.5	332.6	495	370.3	551
CF300-UL-700-01-D	2/0	1 x 70.0	0.65	16.5	477.1	710	516.7	769
CF300-UL-950-01-D	3/0	1 x 95.0	0.79	20.0	629.0	936	700.2	1042
CF300-UL-1200-01-D	4/0	1 x 120.0	0.85	21.5	795.6	1184	870.2	1295
CF300-UL-1500-01-D	300	1 x 150.0	0.93	23.5	987.1	1469	1061.0	1579
CF300-UL-1850-01-D	350	1 x 185.0	1.04	26.5	1295.6	1928	1378.9	2052

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

# Spindle cable/Single core | TPE | chainflex® CFPE







**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®





**1312.4 ft**  
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear flexible</b>	min. 7.5 x d min. 6 x d
		<b>fixed</b>	min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear flexible</b>	-31 °F to +194 °F (-35 °C to +90 °C) -49 °F to +194 °F (-45 °C to +90 °C)
		<b>fixed</b>	-58 °F to +194 °F (-50 °C to +90 °C)
	<b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
		<b>gliding</b>	19.69 ft/s (6 m/s)
	<b>a max.</b>		328.1 ft/s² (100 m/s²)
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	<b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2







## Cable structure

	<b>Conductor</b>	Conductor cable consisting of pre-leads (following DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality TPE mixture.
	<b>Color code</b>	Green-yellow
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)

## Electrical Information

	<b>Nominal voltage</b>	1000 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

	<b>UV resistance</b>	High
	<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>Flame resistance</b>	According to IEC 60332-1-2, FT1, VW-1
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	<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/CSA AWM</b>	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CFPE">www.igus.com/CFPE</a>

Example image

igus® chainflex® CFPE

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

## Class 6.6.4.2

 <b>NFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 <b>DNV-GL</b>	Type approval certificate No. TAE00003XC
 <b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 <b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 <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 CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
 <b>CE</b>	Following 2014/35/EU

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CFRIP II

UL US LISTED

RU US

NFPA

CIPA

DNV-GL

EAC

CTP

RoHS

Clean-Room

CE

### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CFPE-15-01	16	1 G 1.5	0.18	4.5	10.8	16	20.8	31
CFPE-25-01	14	1 G 2.5	0.22	5.5	16.8	25	28.2	42
CFPE-40-01	12	1 G 4.0	0.24	6.0	27.6	41	39.6	59
CFPE-60-01	10	1 G 6.0	0.28	7.0	41.0	61	55.8	83
CFPE-100-01	8	1 G 10.0	0.30	7.5	67.2	100	83.3	124
CFPE-160-01	6	1 G 16.0	0.37	9.5	106.8	159	131.0	195
CFPE-250-01	4	1 G 25.0	0.45	11.5	166.6	248	197.6	294
CFPE-350-01	2	1 G 35.0	0.49	12.5	233.2	347	265.4	395
CFPE-500-01	1	1 G 50.0	0.57	14.5	332.6	495	370.3	551
CFPE-700-01	2/0	1 G 70.0	0.65	16.5	487.2	725	546.3	813
CFPE-950-01	3/0	1 G 95.0	0.79	20.0	629.0	936	725.7	1080

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

# Spindle cable/Single core | TPE | chainflex® CF310-UL






**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®





**1312.4 ft**  
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives

## Dynamic Information

 Bend radius	<b>E-Chain® linear</b>	min. 7.5 x d
	<b>flexible</b>	min. 6 x d
	<b>fixed</b>	min. 4 x d
 Temperature	<b>E-Chain® linear</b>	-31 °F to +194 °F (-35 °C to +90 °C)
	<b>flexible</b>	-49 °F to +194 °F (-45 °C to +90 °C)
	<b>fixed</b>	-58 °F to +194 °F (-50 °C to +90 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s <sup>2</sup> (100 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6







## Cable structure

 Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 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: Signal black (similar to RAL 9004)

## Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

## Properties and approvals

 UV resistance	High
 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
 Flame resistance	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)
 UL verified	Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
 UL/CSA AWM	1000 V, +80C See data sheet for details ► <a href="http://www.igus.com/CF310-UL">www.igus.com/CF310-UL</a>

Configurators ► [www.igus.com/CF310-UL](http://www.igus.com/CF310-UL)

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

## Class 6.6.4.1

 <b>NFFPA 79</b>	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
 <b>DNV-GL</b>	Type approval certificate No. TAE00003XC
 <b>EAC</b>	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 <b>CTP</b>	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 <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 CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
 <b>CE</b>	Following 2014/35/EU



### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF310-UL-25-01	14	1 x 2.5	0.24	6.0	27.6	41	39.0	58
CF310-UL-40-01	12	1 x 4.0	0.26	6.5	38.3	57	51.7	77
CF310-UL-60-01	10	1 x 6.0	0.28	7.0	53.8	80	67.9	101
CF310-UL-100-01	8	1 x 10.0	0.33	8.5	81.3	121	98.1	146
CF310-UL-160-01	6	1 x 16.0	0.39	10.0	123.6	184	149.8	223
CF310-UL-250-01	4	1 x 25.0	0.47	12.0	188.2	280	221.1	329
CF310-UL-350-01	2	1 x 35.0	0.51	13.0	265.4	395	298.4	444
CF310-UL-500-01	1	1 x 50.0	0.59	15.0	360.2	536	394.4	587
CF310-UL-700-01	2/0	1 x 70.0	0.71	18.0	523.5	779	571.8	851
CF310-UL-950-01	3/0	1 x 95.0	0.83	21.0	682.0	1015	756.0	1125
CF310-UL-1200-01	4/0	1 x 120.0	0.87	22.0	853.4	1270	926.0	1378
CF310-UL-1500-01	300	1 x 150.0	0.96	24.5	1069.8	1592	1142.3	1700
CF310-UL-1850-01	350	1 x 185.0	1.08	27.5	1388.3	2066	1470.9	2189

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

# Spindle cable/Single core | TPE | chainflex® CF330-D







**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®




**1312.4 ft**  
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

## Dynamic Information

	<b>Bend radius</b>	<b>E-Chain® linear</b>	min. 7.5 x d
		<b>flexible</b>	min. 6 x d
		<b>fixed</b>	min. 4 x d
	<b>Temperature</b>	<b>E-Chain® linear</b>	-31 °F to +194 °F (-35 °C to +90 °C)
		<b>flexible</b>	-58 °F to +194 °F (-50 °C to +90 °C)
		<b>fixed</b>	-67 °F to +194 °F (-55 °C to +90 °C)
	<b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
		<b>gliding</b>	19.69 ft/s (6 m/s)
	<b>a max.</b>		328.1 ft/s <sup>2</sup> (100 m/s <sup>2</sup> )
	<b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	<b>Torsion</b>		Torsion ±90°, with 3.281ft (1m) cable length, Class 2






## Cable structure

	<b>Conductor</b>	Conductor cable consisting of pre-leads (following DIN EN 60228).
	<b>Conductor insulation</b>	Mechanically high-quality TPE mixture.
	<b>Outer jacket</b>	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

## Electrical Information

	<b>Nominal voltage</b>	600 V
	<b>Test voltage</b>	4000 V (following DIN EN 50395)

## Properties and approvals

	<b>UV resistance</b>	High
	<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

Configurators ► [www.igus.com/CF330-D](http://www.igus.com/CF330-D)







36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

# Class 7.6.4.2

-  **EAC** Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
-  **REACH** In accordance with regulation (EC) No. 1907/2006 (REACH)
-  **Lead-free** Following 2011/65/EC (RoHS-II/RoHS-III)
-  **Cleanroom** 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
-  **DESINA** According to VDW, DESINA standardization.
-  **CE** Following 2014/35/EU

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section		Outer diameter max.		Copper index		Weight	
		[mm²]		[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF330-60-01-D	10	1 x 6.0		0.28	7.0	41.0	61	51.7	77
CF330-100-01-D	8	1 x 10.0		0.30	7.5	67.2	100	80.0	119
CF330-160-01-D	6	1 x 16.0		0.37	9.5	106.8	159	121.6	181
CF330-250-01-D	4	1 x 25.0		0.45	11.5	166.6	248	190.8	284
CF330-350-01-D	2	1 x 35.0		0.49	12.5	233.2	347	258.7	385
CF330-500-01-D	1	1 x 50.0		0.57	14.5	332.6	495	358.8	534
CF330-700-01-D	2/0	1 x 70.0		0.65	16.5	477.1	710	506.7	754
CF330-950-01-D	3/0	1 x 95.0		0.79	20.0	629.0	936	682.0	1015
CF330-1200-01-D	4/0	1 x 120.0		0.85	21.5	795.6	1184	850.0	1265
CF330-1500-01-D	300	1 x 150.0		0.93	23.5	987.1	1469	1040.2	1548
CF330-1850-01-D	350	1 x 185.0		1.04	26.5	1295.6	1928	1354.7	2016

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core

Guarantee  
igus chainflex  
**36**  
up to 36 months guarantee

chainflex  
CONTINUOUS FLEX  
CABLE TEST PROCESS  
VERIFICATION

igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

UL  
VERIFIED  
B129699

- CFRIP
- UL LISTED
- UL US
- CFRUS
- NFPA
- CIPA
- UL
- EAC
- RoHS
- Clean-Room
- DESINA
- CE

# Spindle cable/Single core | TPE | chainflex® CF340






**36** 10,000,000  
Cycles guaranteed

**7.5 x d**  
Bend radius E-Chain®





**1312.4 ft**  
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives



## Dynamic Information

 Bend radius	<b>E-Chain® linear</b>	min. 7.5 x d
	<b>flexible</b>	min. 6 x d
	<b>fixed</b>	min. 4 x d
 Temperature	<b>E-Chain® linear</b>	-31 °F to +194 °F (-35 °C to +90 °C)
	<b>flexible</b>	-58 °F to +194 °F (-50 °C to +90 °C)
	<b>fixed</b>	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s <sup>2</sup> (100 m/s <sup>2</sup> )
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6






## Cable structure

 Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 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: Jet black (similar to RAL 9005)

## Electrical Information

 Nominal voltage	600 V
 Test voltage	4000 V (following DIN EN 50395)

## Properties and approvals

 UV resistance	High
 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)
 Halogen-free	Following DIN EN 60754
 UL verified	Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Configurators ► [www.igus.com/CF340](http://www.igus.com/CF340)

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 1312 ft
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

## Class 7.6.4.1



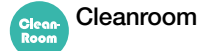
Certificate No. RU C-DE.ME77.B.02324 (TR ZU)



In accordance with regulation (EC) No. 1907/2006 (REACH)



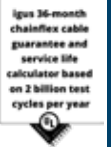
Following 2011/65/EC (RoHS-II/RoHS-III)



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



Following 2014/35/EU



### Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

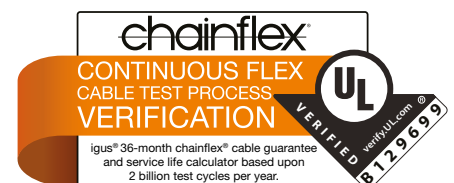
\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

### Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm <sup>2</sup> ]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF340-40-01	12	1 x 4.0	0.26	6.5	38.3	57	49.1	73
CF340-160-01	6	1 x 16.0	0.39	10.0	123.6	184	144.5	215
CF340-250-01	4	1 x 25.0	0.47	12.0	188.2	280	214.4	319
CF340-350-01	2	1 x 35.0	0.51	13.0	265.4	395	291.0	433
CF340-500-01	1	1 x 50.0	0.59	15.0	360.2	536	385.7	574
CF340-700-01	2/0	1 x 70.0	0.69	17.5	523.5	779	559.1	832
CF340-950-01	3/0	1 x 95.0	0.83	21.0	682.0	1015	734.5	1093
CF340-1200-01	4/0	1 x 120.0	0.87	22.0	853.4	1270	901.1	1341
CF340-1500-01	300	1 x 150.0	0.96	24.5	1069.8	1592	1103.4	1642
CF340-1850-01	350	1 x 185.0	1.08	27.5	1388.3	2066	1449.4	2157
CF340-2400-01	450	1 x 240.0	1.20	30.5	1724.3	2566	1835.1	2731

Note: The given outer diameters are maximum values.  
G = with green-yellow earth core x = without earth core







# Medium voltage cable | igupren | chainflex® CFRANE






**36** 10,000,000  
Cycles guaranteed

**10 x d**  
Bend radius E-Chain®





**1312 ft**  
Travel distance E-Chain®

- For maximum voltages and outputs
- igupren outer jacket
- Shielded
- Oil-resistant
- Flame retardant



## Dynamic Information

 <b>Bend radius</b>	<b>E-Chain® linear</b>	min. 10 x d
	<b>flexible</b>	min. 8 x d
	<b>fixed</b>	min. 5 x d
 <b>Temperature</b>	<b>E-Chain® linear</b>	-4 °F to +176 °F (-20 °C to +80 °C)
	<b>flexible</b>	-13 °F to +176 °F (-25 °C to +80 °C)
	<b>fixed</b>	-22 °F to +176 °F (-30 °C to +80 °C)
 <b>v max.</b>	<b>unsupported</b>	32.81 ft/s (10 m/s)
	<b>gliding</b>	19.69 ft/s (6 m/s)
 <b>a max.</b>		164.1 ft/s <sup>2</sup> (50 m/s <sup>2</sup> )
 <b>Travel distance</b>		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

## Cable structure

 <b>Conductors</b>	Highly-flexible cable consisting of tinned copper wires (according to DIN EN 60228).
 <b>Conductor insulation</b>	Inner: semi-conductive rubber Middle layer: insulating sheath made of high quality, heat resistant, and ozone proof Ethylene Propylene Rubber (EPR) Outer: semi-conductive Rubber
 <b>Overall shield</b>	Extremely bending-resistant, tinned copper shield. 95 % optical coverage
 <b>Outer jacket</b>	Low-adhesion mixture on the basis of iguprene, especially abrasion resistant and highly flexible, adapted to suit the requirements in E-Chains® Color: Red

## Electrical Information

 <b>Nominal voltage</b>	6/10 kV (following DIN VDE 0250), other voltages upon request.
 <b>Test voltage</b>	17 kV (following DIN VDE 0250, Part 813)

Example image

Configurators ► [www.igus.com/CFCRANE](http://www.igus.com/CFCRANE)

36 month guarantee ... 1,354 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	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

# Class 6.6.3.1

## Properties and approvals

-  **UV resistance** High
-  **Oil resistance** Oil-resistant (following DIN EN 60811-404)
-  **Flame resistance** According to IEC 60332-1-2
-  **Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
-  **UL verified** Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
-  **REACH** In accordance with regulation (EC) No. 1907/2006 (REACH)
-  **Lead-free** Following 2011/65/EC (RoHS-II)
-  **CE** Following 2014/35/EU
-  **Info** This cable series will be individually manufactured for your special project. Due to this we do not have this cable on stock, but can offer it exactly for your special demands.  
Medium Voltage cables from stock (CFCRANE.PUR) page 362

## Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	12.5	13.5	14.5
+14/+158	10	11	12
+158/+176	12.5	13.5	14.5

\* Higher number of cycles? Online lifetime calculation ► [www.chainflex.com/chainflexlife](http://www.chainflex.com/chainflexlife)

## Typical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications, UV-resistant
- Ship to shore crane applications, Conveyor technique



chainflex® CFCRANE for 500 m and more of travel. E-Chain®: igus® rol E-Chain®

