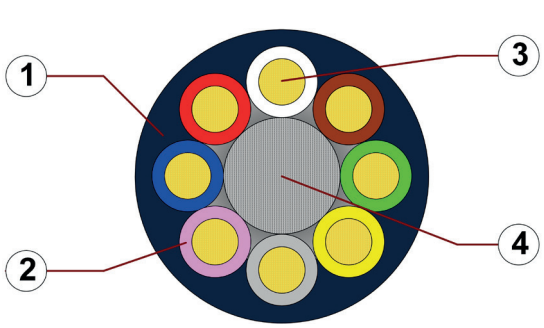
# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**




1. Outer jacket: Pressure extruded, gusset-filling, halogen-free TPE mixture
2. Core insulation: Mechanically high-quality TPE mixture
3. Conductor: Conductor consisting of a highly flexible special alloy
4. Strain relief: Tensile stress-resistant centre element


Example image

**Example image**
For detailed overview please see design table

## Cable structure

| | |
|---|---|
| **Conductor** | Conductor consisting of a highly flexible special alloy. |
| **Core insulation** | Mechanically high-quality TPE mixture. |
| **Core structure** | Cores wound in a layer with especially short pitch length. |
| **Core identification** | Colour code in accordance with DIN 47100<br>**CF298.02.03:** brown, blue, black<br>**CF298.03.04:** brown, blue, black, white |
| **Outer jacket** | Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.<br>Colour: Steel-blue (similar to RAL 5011)<br>Printing: white |

**„00000 m“* igus chainflex CF298.--.--① -----② EAC CE**

**RoHS-II conform www.igus.de +++ chainflex cable works +++**

*** Length printing:** Not calibrated. Only intended as an orientation aid.
① / ② Cable identification according to Part No. (see technical table).
Example: ... chainflex ... **CF298.02.03** ... **3x0.25** ... **EAC** ...

Guarantee igus chainflex 36 month guarantee

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

# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

Example image

## Dynamic information

| | | | |
|---|---|---|---|
| Bend radius | e-chain® linear | minimum 4 x d |
| | flexible | minimum 4 x d |
| | fixed | minimum 3 x d |
| Temperature | e-chain® linear | -35 °C up to +90 °C |
| | flexible | -50 °C up to +90 °C (following DIN EN 60811-504) |
| | fixed | -55 °C up to +90 °C (following DIN EN 50305) |
| v max. | unsupported | 10 m/s |
| | gliding | 6 m/s |
| a max. | | 100 m/s² |
| Travel distance | | Short, very fast applications with small radii and tight design space, Class 5 |
| Torsion | | Torsion ± 90°, with 1 m cable length |

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

## Guaranteed service life according to guarantee conditions

| Double strokes | 20 million | 30 million | 40 million |
|---|---|---|---|
| Temperature, from/to [°C] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| -35/-25 | 5 | 6 | 7 |
| -25/+80 | 4 | 5 | 6 |
| +80/+90 | 5 | 6 | 7 |

Minimum guaranteed service life of the cable under the specified conditions.
The installation of the cable is recommended within the middle temperature range.

## Electrical information

| | |
|---|---|
| Nominal voltage | 300/300 V |
| Testing voltage | 1500 V |

# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

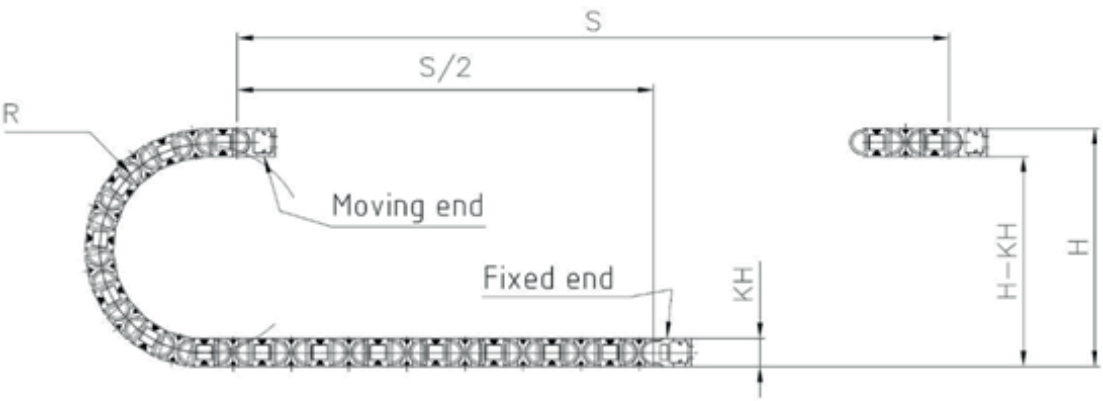
Example image

## 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“ |
| **EAC** | Certificate No. RU C-DE.ME77.B.02806 (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 |
| **CE** | Following 2014/35/EU |

## Typical lab test setup for this cable series

| | |
|---|---|
| **Test bend radius R** | ca. 15 - 28 mm |
| **Test travel S** | approx. 1 - 15 m |
| **Test duration** | minimum 2 - 4 million double strokes |
| **Test speed** | approx. 0.5 - 2 m / s |
| **Test acceleration** | approx. 0.5 - 1.5 m / s² |



# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

Example image

## Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ± 90°, with 1 m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, Clean room, very quick handling

Guarantee igus chainflex 36 month guarantee

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

# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

Example image

## Technical tables:

### Mechanical information

| Part No. | Number of cores and conductor nominal cross section [mm²] | Outer diameter (d) max. [mm] | Copper index [kg/km] | Weight [kg/km] |
|---|---|---|---|---|
| CF298.01.02 | 2x0.14 | 4.5 | 5 | 17 |
| CF298.01.04 | 4x0.14 | 5.5 | 9 | 28 |
| CF298.01.08 | 8x0.14 | 7.0 | 17 | 49 |
| CF298.02.03 | 3x0.25 | 5.5 | 12 | 28 |
| CF298.02.04 | 4x0.25 | 6.0 | 16 | 34 |
| CF298.02.07 | 7x0.25 | 7.0 | 28 | 52 |
| CF298.02.08 | 8x0.25 | 7.5 | 32 | 60 |
| CF298.03.04 | 4x0.34 | 6.0 | 19 | 37 |
| CF298.03.07 | 7x0.34 | 7.5 | 34 | 62 |
| CF298.05.04 | 4x0.5 | 6.5 | 28 | 49 |

**Note:** The given outer diameters are maximum values and may tend toward lower tolerance limits.
**G =** with green-yellow earth core **x =** without earth core

### Electrical information

| Conductor nominal cross section [mm²] | Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km] | Max. current rating at 30 °C [A] |
|---|---|---|
| 0.14 | 140 | 2.5 |
| 0.25 | 80 | 5 |
| 0.34 | 65 | 7 |
| 0.5 | 45 | 10 |

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Guarantee igus chainflex 36 month guarantee

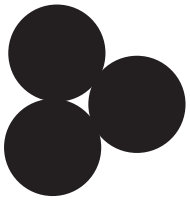
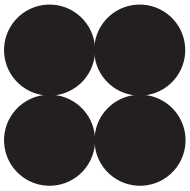
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

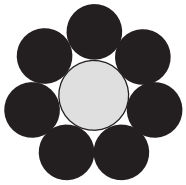
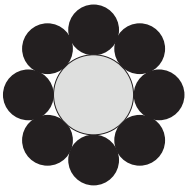
# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

Example image

## Design table

| Part No. | Number of cores | Core design |
|---|---|---|
| CF298.XX.02 | 2 |  |
| CF298.XX.03 | 3 |  |
| CF298.XX.04 | 4 |  |

| Part No. | Number of cores | Core design |
|---|---|---|
| CF298.XX.07 | 7 |  |
| CF298.XX.08 | 8 |  |

Guarantee igus chainflex 36 month guarantee

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

# Data sheet
# chainflex® CF298

**Data cable (Class 7.5.4.2) ● For heaviest duty applications and especially small radii down to 4 x d ● TPE outer jacket ● Oil and bio-oil resistant ● PVC and halogen-free ● Low-temperature-flexible ● Hydrolysis and microbe-resistant**

Example image

## Colour code in accordance with DIN 47100

| Conductor no. | Colours according to DIN ISO 47100 |
|---|---|
| 1 | white |
| 2 | brown |
| 3 | green |
| 4 | yellow |
| 5 | grey |
| 6 | pink |
| 7 | blue |
| 8 | red |
| 9 | black |
| 10 | violet |
| 11 | grey-pink |
| 12 | red-blue |
| 13 | white-green |
| 14 | brown-green |
| 15 | white-yellow |
| 16 | brown-yellow |
| 17 | white-grey |
| 18 | brown-grey |
| 19 | white-pink |
| 20 | white-brown |
| 21 | white-blue |

| Conductor no. | Colours according to DIN ISO 47100 |
|---|---|
| 22 | brown-blue |
| 23 | white-red |
| 24 | brown-red |
| 25 | white-black |
| 26 | brown-black |
| 27 | grey-green |
| 28 | yellow-grey |
| 29 | pink-green |
| 30 | yellow-pink |
| 31 | green-blue |
| 32 | yellow-blue |
| 33 | green-red |
| 34 | yellow-red |
| 35 | green-black |
| 36 | yellow-black |
| 37 | grey-blue |
| 38 | pink-blue |
| 39 | grey-red |
| 40 | pink-red |
| 41 | grey-black |
| 42 | pink-black |

| Conductor no. | Colours according to DIN ISO 47100 |
|---|---|
| 43 | blue-black |
| 44 | red-black |
| 45 | white-brown-black |
| 46 | yellow-green-black |
| 47 | grey-pink-black |
| 48 | red-blue-black |
| 49 | white-green-black |
| 50 | brown-green-black |
| 51 | white-yellow-black |
| 52 | yellow-brown-black |
| 53 | white-grey-black |
| 54 | grey-brown-black |
| 55 | white-pink-black |
| 56 | pink-brown-black |
| 57 | white-blue-black |
| 58 | brown-blue-black |
| 59 | white-red-black |
| 60 | brown-red-black |
| 61 | black-white |

Guarantee igus chainflex 36 month guarantee

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

REACH

RoHS

Clean-Room

CE