

Test Intention:

In test 4588 we want to investigate the lifespan of CF880.10.12 in an e-chain with a 100mm radius.

Client:

Name: R. Rössel

Team: chainflex®

Date: 28.08.2012

Order-Info:

Customer/ No.: igus® GmbH, Spicher Str.1a 51147 Köln

Series / No: CF880

Installation type: horizontal

Customer test: Yes No

Development test: Yes No

Technical data

Target & Examination

e-chain® type: E6.29.070.100.0

Target [strokes]: **Lifespan**

e-chain® radius [mm]: 100

Optical check:

Stroke [m]: 2,1

Function check:

Ambient temperature [°C]: approx. 25°C

Standard measuring:

Cable length [m]: 5,0

AutΩMeS:

Experimental setup (Sketch, Photo ...)

Checklist for the experimental preparations

- additional inscription/label at all wires
- strain reliefs at both ends of the chain
- correct electrical connection of all wires
- radius was marked at the cables and the energy chain

1. Construction:

This test is built up on the „Maschine 57“. The following picture shows the test structure:



2. Cable and hose packages:

No. 1: **2x CF880.10.12** with the cable marking
01588m igus Chainflex CF880.10.12 12G1,0 300/500V CE H O/BG ROHS conform www.igus.de

3. Description of the cable construction:

Standard igus chainflex® catalogue cable

4. Remarks:

To detect broken conductor or shielding wires we will measure the ohmic resistance of these cable elements. The cores of the samples are connected in series to measure the ohmic resistances.

The following chart gives an overview regarding the test parameters:

Cable no.	Cable type	E-chain radius [mm]	Outer diameter [mm]	Bending factor [xd]	Bending factor catalogue
1.X	CF880.10.12	100	10,8	9,3	12,5

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after ... strokes
		... mounting	... demounting		
1.1	CF880.10.12	13.914.212	26.843.550	12.929.338	12.929.338
1.2	CF880.10.12	13.914.212	24.837.088	10.922.876	10.922.876

Test-order was checked by ... [Rainer Rössel or Martin Göllner and further employee]

Date:	28.08.2012	Name:		Name:	Ch. Mittelstedt
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Result

Start report 28.09.2012:

At the 28.09.2012 we started the test 4588 with a counter reading 13.914.212, we will measure the ohmic resistance with AutΩMeS.

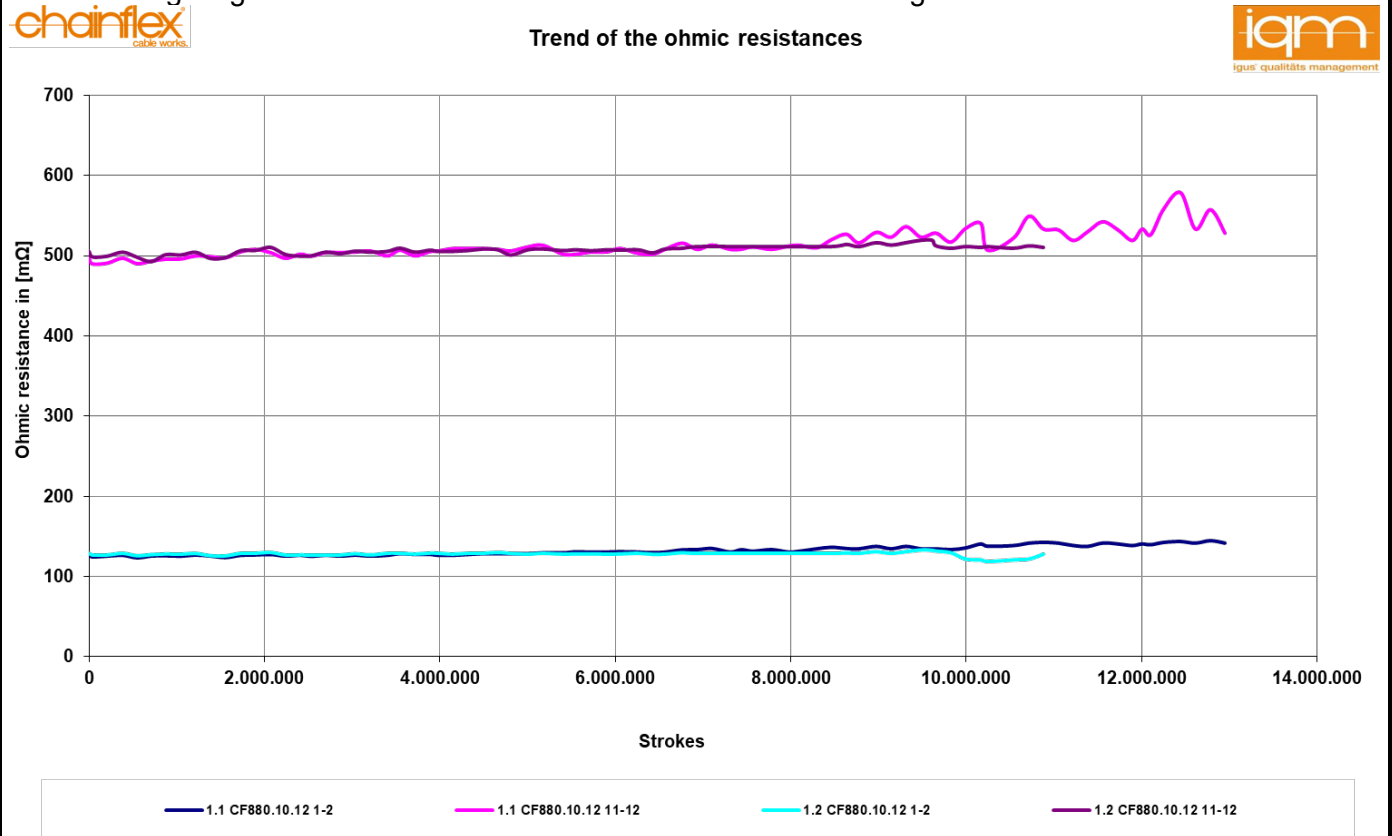
Interim report 29.04.2013:

At the 29.04.2013, after 10.922.876 strokes we demounted the cable no. 1.2, to check the inner structure of the cable

Interim report 05.06.2013:

At the 05.06.2013 after 12.929.338 strokes we demounted the cable no. 1.1 because we want to finalize the test.

The following diagrams show the trend of the ohmic resistances during the test:

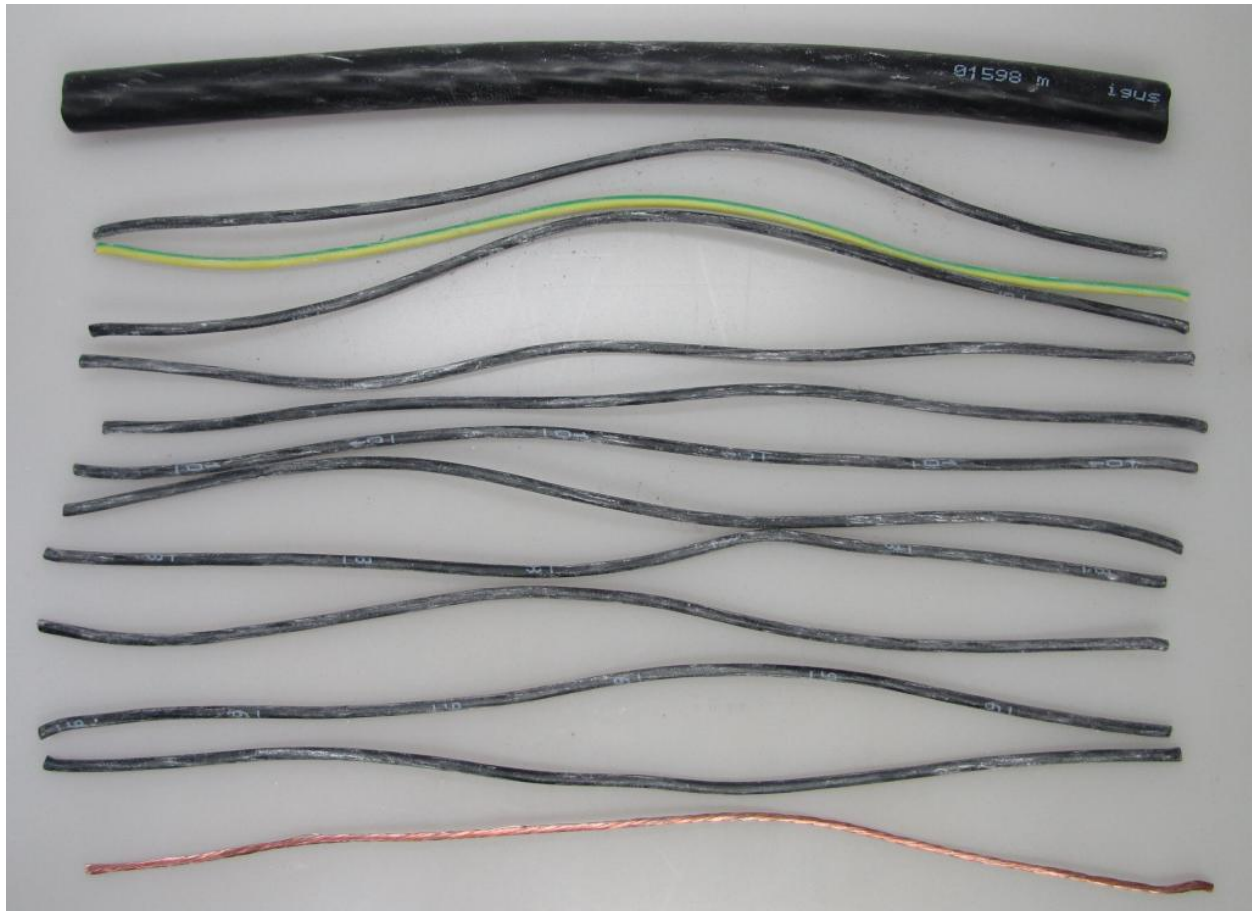


Evaluation

Dissection report:

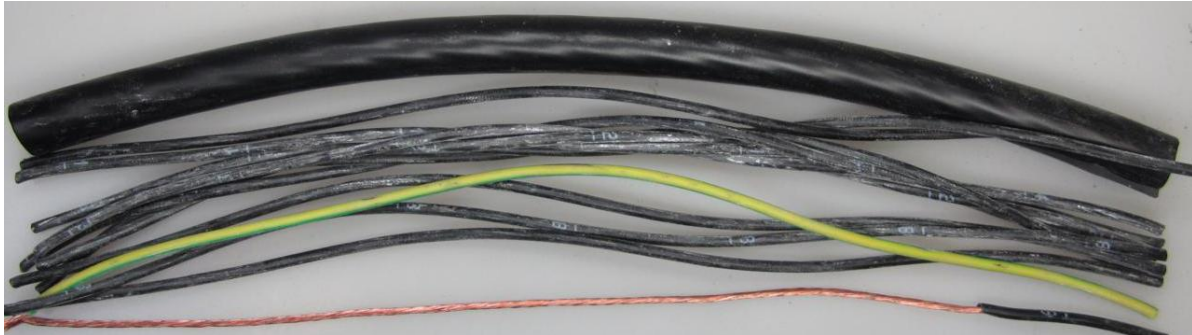
The following pictures show the dissected elements of the cables

The condition of the cable no.1.1 (CF880.10.12) after 12.929.338 strokes



Double strokes [DS]	12.929.338
Condition outer jacket	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.

The condition of the cable no.1.2 (CF880.10.12) after 10.922.876 strokes



Double strokes [DS]	10.922.876
Condition outer jacket	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.

Name: **C. Mittelstedt**

Date: **05.06.2013**