

## Test Intention:

In test 4904 we want to investigate the lifespan of a CF38.250.04 in an e-chain with a 175mm radius.

## Client:

Name: Christian Mittelstedt      Team: chainflex®      Date: 25.02.2014

## Order-Info:

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

Series / No: CF38      Installation type: horizontal, short way

Customer test:      Yes  No       Development test:      Yes  No

## Technical data

## Target & Examination

e-chain® type: E4.42.07.175.0

Target [strokes]: **Lifespan**

e-chain® radius [mm]: 175

Optical check:

Stroke [m]: 2,1

Function check:

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

Standard measuring:

Cable length [m]: 10,0

AutΩMeS:

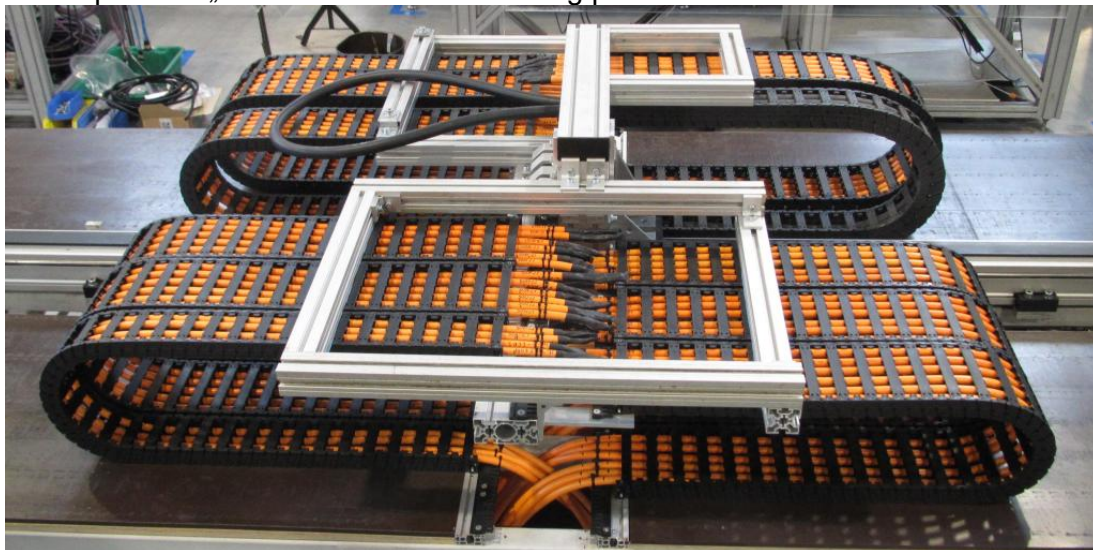
## Experimental setup

### 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 56“. The following picture shows the test structure:

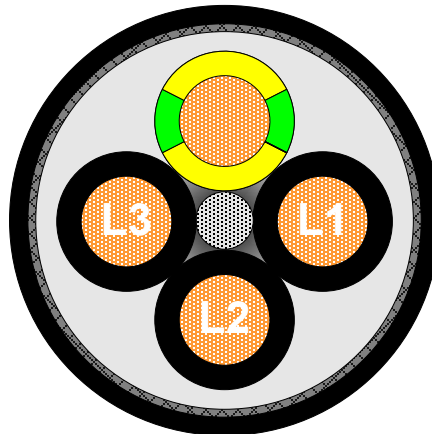


## 2. Cable and hose packages:

No. 1: **2x CF38.250.04** with the cable marking  
03262m igus chainflex CF38.250.04 (4G25)C 600/1000V CE N P/AE RoHS-II 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 following chart gives an overview regarding the test parameters:

Cable no.	Cable type	e-chain radius [mm]	External diameter [mm]	Bending factor [xd]	Bending factor catalogue [xd]
1.X	CF38.250.04	175	26,9	6,5	7,5

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after ... strokes
		... mounting	... demounting		
1.1	CF38.250.04	28.139.850	71.139.976	43.000.126	43.000.126
1.2	CF38.250.04	28.139.850	71.139.976	43.000.126	43.000.126

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

Date:	<b>25.02.2014</b>	Name:		Name:	<b>Christian Mittelstedt</b>
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## Result

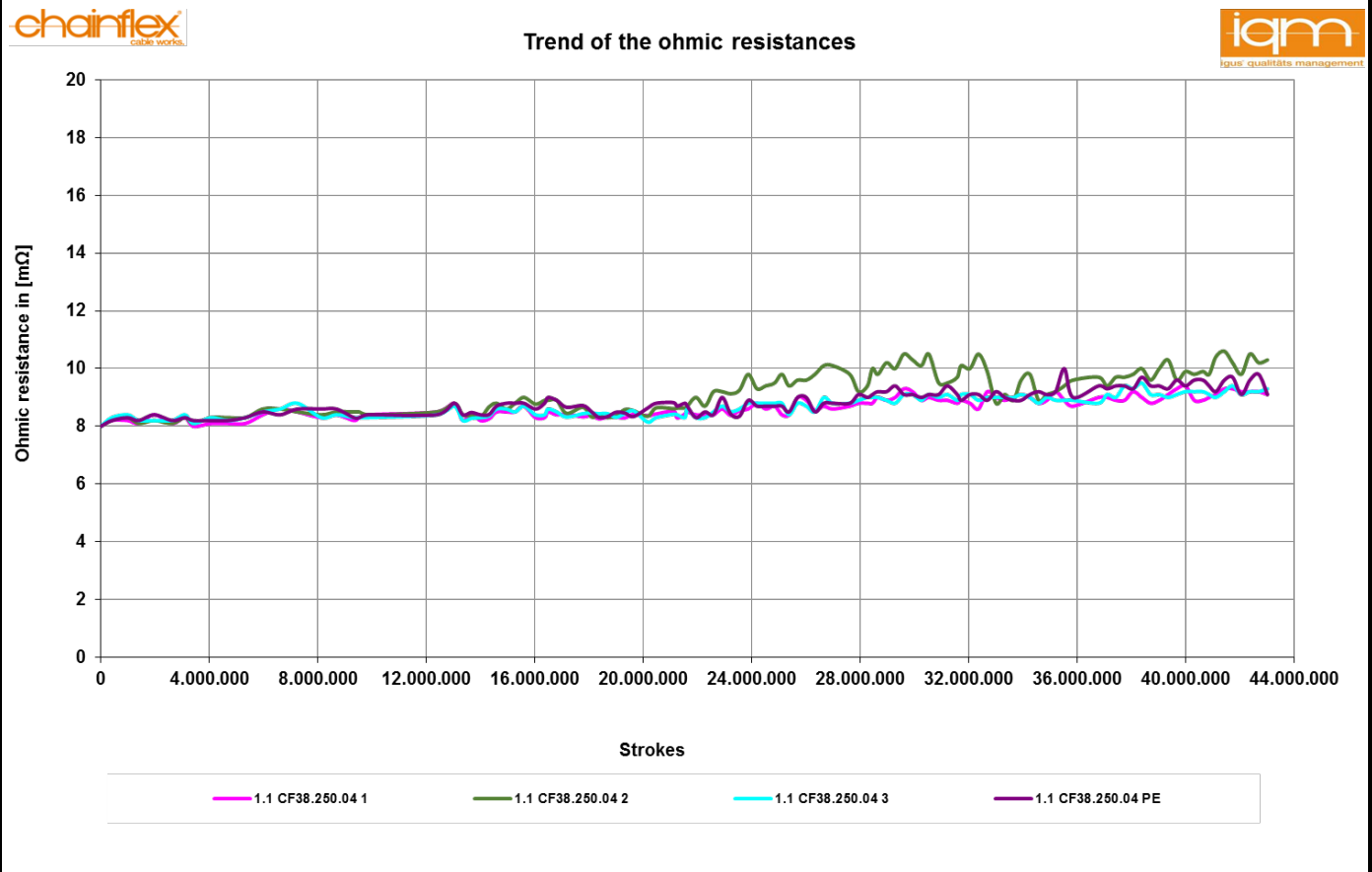
### Start report 17.03.2014:

At the 17.03.2014 we started the test 4904 at counter reading of 28.139.850, we will measure the ohmic resistance regularly.

### Interim report 09.02.2017:

At the 09.02.2017 we demounted the cables after 43.000.126 strokes because we want to finalize the test.

The following chart shows the trend of the ohmic resistance after 43.000.126 strokes:

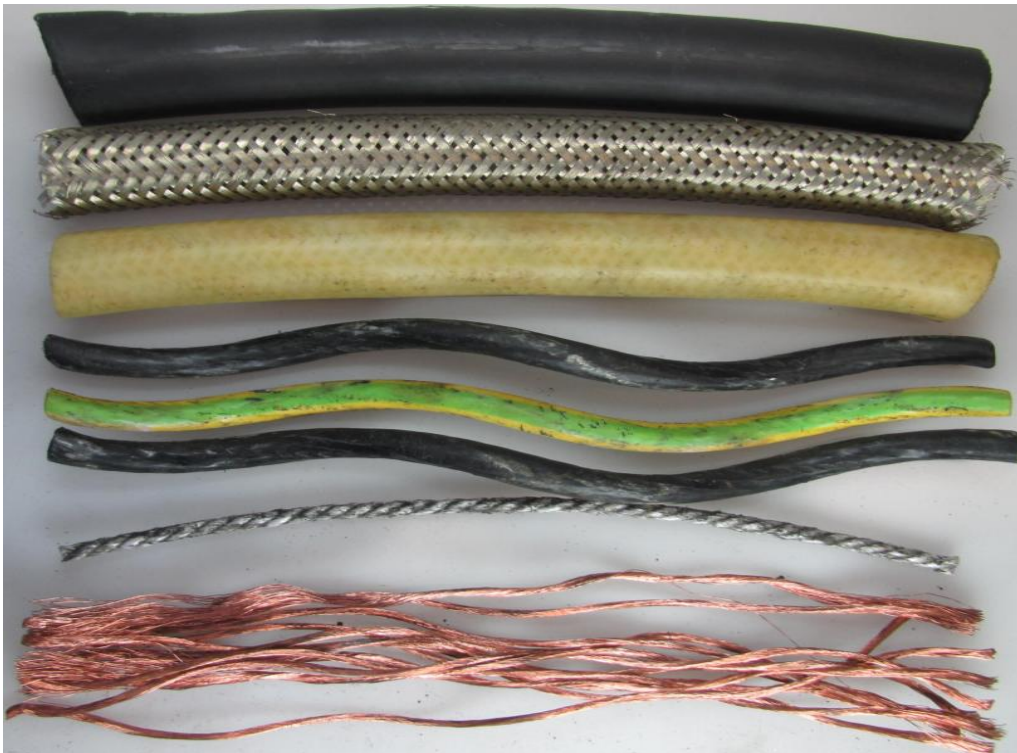


## Evaluation

### Dissection report:

The following pictures show the dissected elements of the cables

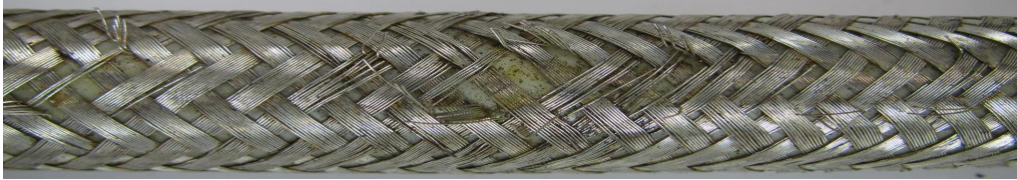
#### The condition of the cable no.1.1 (CF38.250.04) after 43.000.126 strokes



Strokes	43.000.126
Condition outer jacket	O.K.
Condition overall shielding	Broken wires
Condition inner jacket	O.K.
Condition centre element	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.



## The condition of the cable no.1.2 (CF38.250.04) after 43.000.126 strokes



Strokes	43.000.126
Condition outer jacket	O.K.
Condition overall shielding	Broken wires
Condition inner jacket	O.K.
Condition centre element	O.K.
Condition core insulation	O.K.
Condition conductor	Single wires broken

Name: **Tobias Schaller**

Date: **10.02.2017**