

Test Intention:

In this test 4221 we want to investigate the lifespan of our CF240.PUR in an e-chain with 75mm radius.

Client:

Name: C. Mittelstedt Team: chainflex® Date: 05.09.2011

Order-Info:

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

Series / No: CF240.PUR Installation type: horizontal, short way

Customer test: Yes No Development test: Yes No

Technical data

Target & Examination

E-Chain type: 255.10.075.0	Target [strokes]: Lifespan
E-Chain Radius [mm]: 75	Optical check: <input checked="" type="checkbox"/>
Stroke [m]: 1,5	Function check: <input type="checkbox"/>
Ambient temperature [°C]: approx. 25°C	Standard measuring: <input checked="" type="checkbox"/>
Cable length [m]: 3,00	AutΩMeS: <input type="checkbox"/>

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 „Zollern“. The following pictures show the test structure:



2. Cable and hose packages:

No. 1: **3x CF240.PUR.02.18** with the cable marking
 00310 igus CHAINFLEX CF240.PUR.02.18 (18x0,25)C E310776 cURus AWM STYLE 20233
 VW-1 AWM I/II A/B 80°C 300V FT1 CE F N/DB 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 and one core is connected with the shielding 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
1.1	CF240.PUR.02.18	75	8,8	8,5	10,0

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after ... strokes
		... mounting	... demounting		
1.1	CF240.PUR.02.18	73.351.537	103.893.423	30.541.886	30.541.886

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

Date:	16.09.2011	Name:		Name:	C. Mittelstedt
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Result

Start Report 16.09.2011:

At the 16.09.2011 we started the test 4221 at a counter reading 73.351.537, we will measure the ohmic resistance regularly.

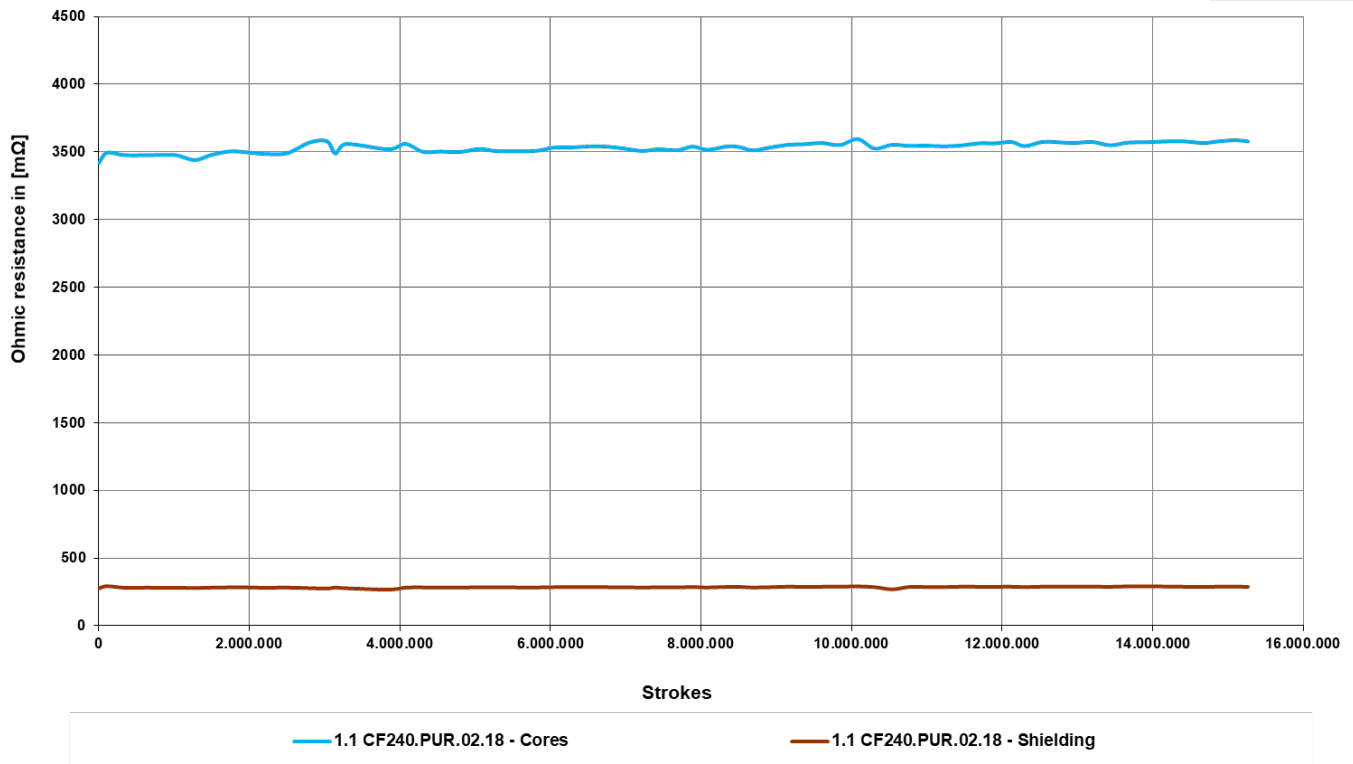
Interim Report 05.02.2013:

At the 05.02.2013 we demounted the cable after 30.541.886 strokes, to finalize the test.

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



Trend of the ohmic resistances

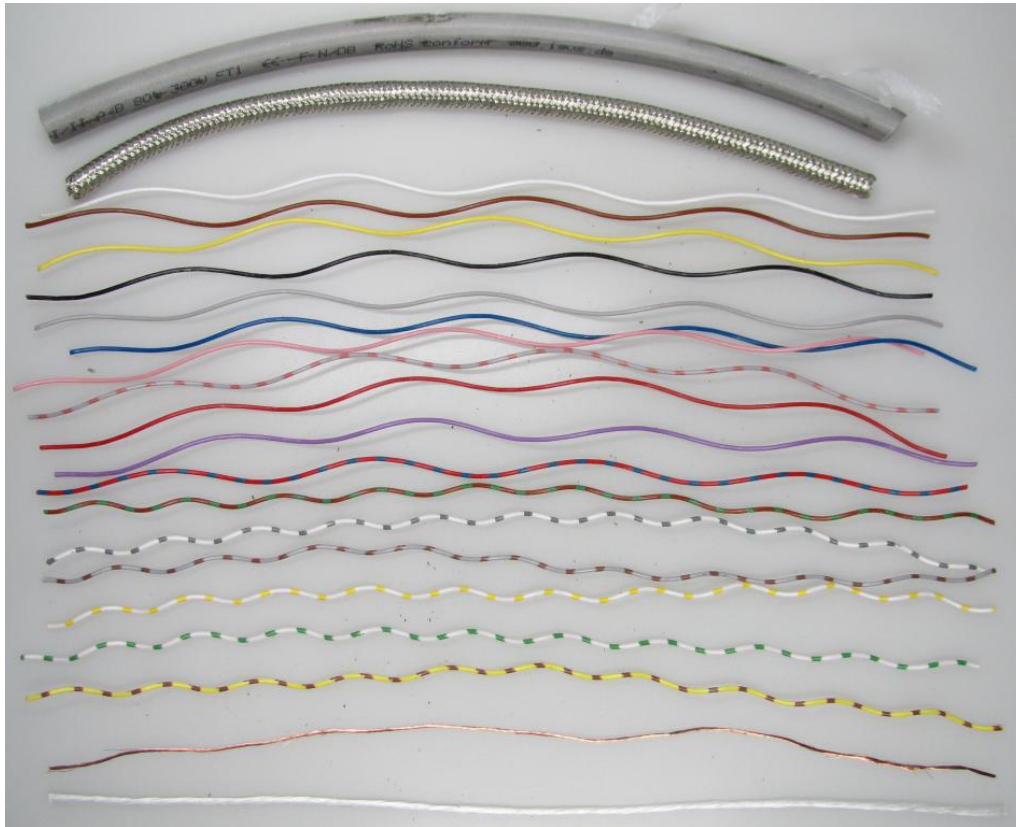


Evaluation

Dissection Report:

The following pictures show the condition of dissected cables

The condition of the cable no.6.1 (CF240.PUR.02.18) after 30.541.886 strokes



Strokes	30.541.886
Condition outer jacket	Slightly abrasion
Condition overall shielding	O.K.
Condition banding	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.
Condition centre element	O.K.

Name: **C. Mittelstedt**

Date: **05.02.2013**