Test-Order chainflex®

Test No.: **4692**

Test Intention:
In test 4692 we want to investigate the lifespan of our CF113.038.D in an e-chain with a 55mm radius.

Client:		
Name: Christian Mittelstedt	Team: chainflex®	Date: 20.11.2012

Order-Info:	
Customer / No.: igus® GmbH, Spicher Str.1a 51147 Köln	
Series / No: CF113.D	Installation type: horizontal, short way
Customer test: Yes ☐ No ☒	Development test: Yes ☒ No ☐

Technical data		**Target & Examination**	
e-chain® type:	2400.05.055.0	Target [strokes]:	**Lifespan**
e-chain® radius [mm]:	55	Optical check:	☒
Stroke [m]:	0,8	Function check:	☐
Ambient temperature [°C]:	approx. 25°C	Standard measuring:	☒
Cable length [m]:	4,0	AutΩMeS:	☐

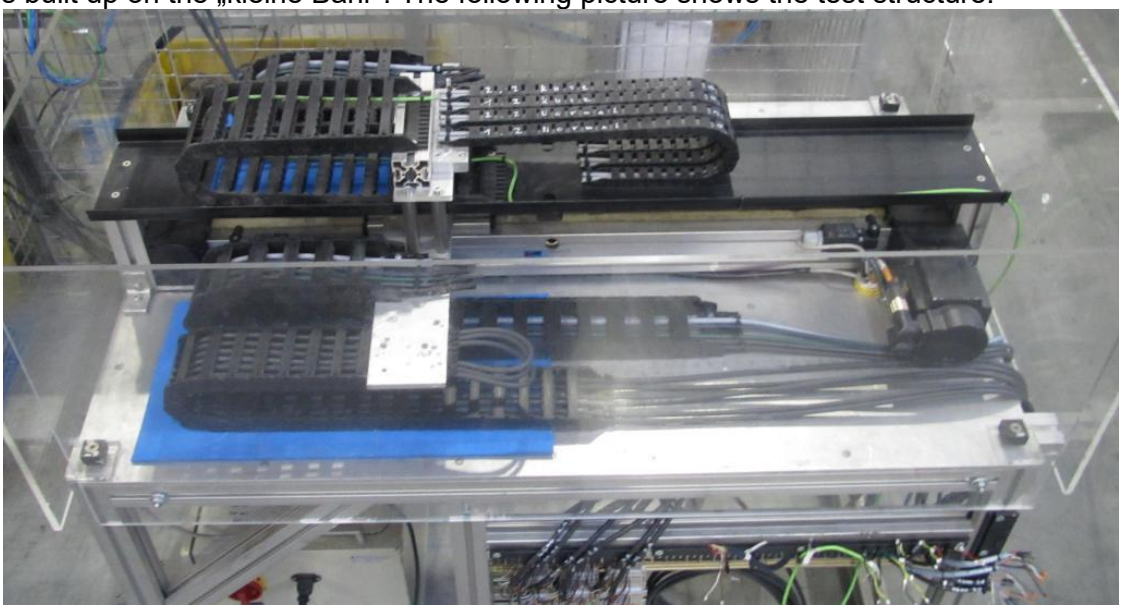
Experimental setup

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 „kleine Bahr“. The following picture shows the test structure:



The managing data show the results of the accomplished examinations. With all data it still acts neither around one or more warranties of certain characteristics around one or more warranties regarding the suitability of a product for a certain targeted application, since the examinations on laboratory conditions took place. The warranty of certain characteristics of the products and/or their suitability for a certain application requires writing in the confirmation of order. Finally we recommend user-specific measurements under genuine operating conditions.

2. Cable and hose packages:

No. 1: **1x CF113.038.D** with the cable marking

05121m igus chainflex CF113.038.D (3x(2x0,14)+(2x0,34))C E310776 E cRUus AWM Style 20236 VW-1 AWM I/II A/B 80°C 30V FT-1 CE E O/ED DESINA 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 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 [xd]
1.1	CF113.038.D	55	7,2	7,6	10,0

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after … strokes
		… mounting	… demounting		
1.1	CF113.038.D	68.019.214	100.601.950	32.582.736	32.582.736

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

Date:	20.11.2012	Name:		Name:	C. Mittelstedt

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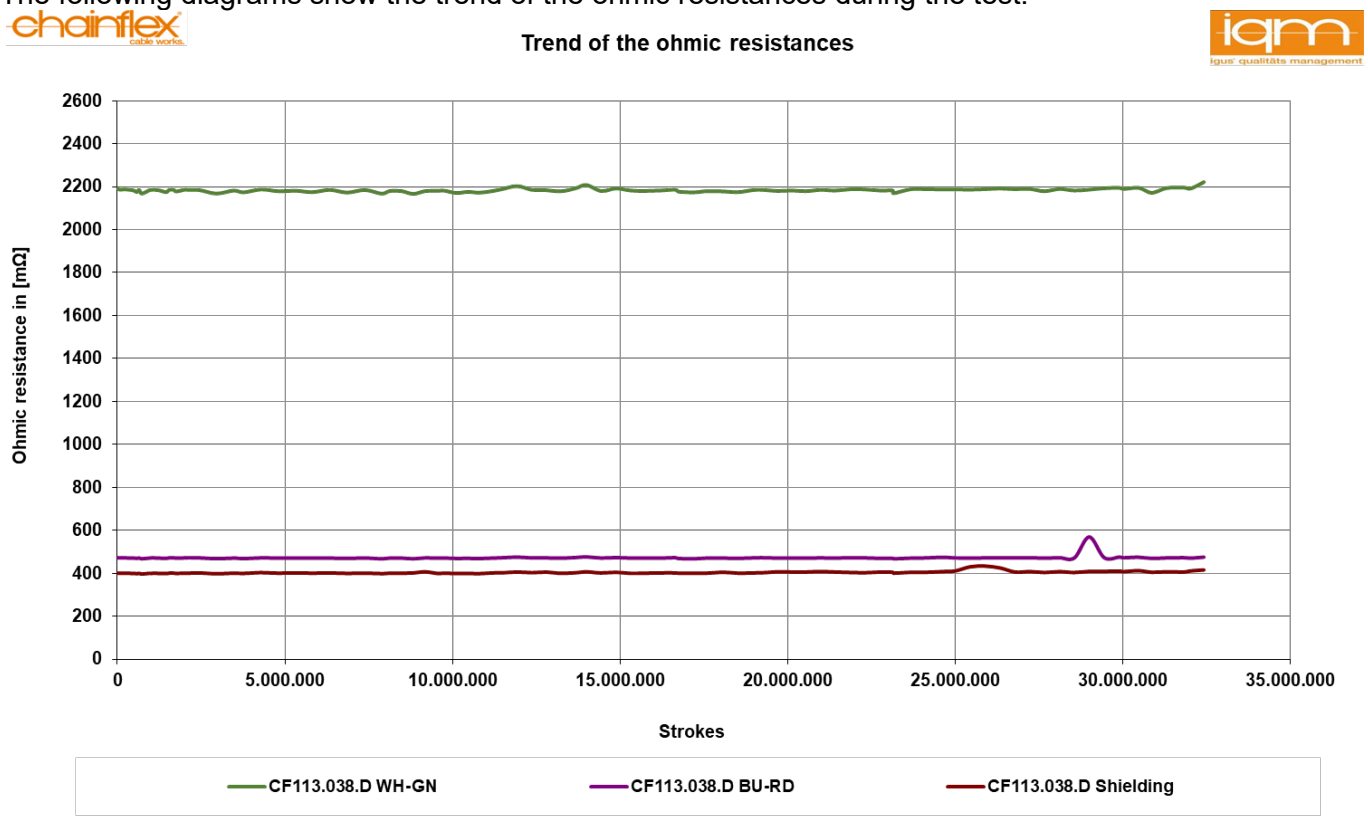
Result

Start report 20.11.2012:
At the 20.11.2012 we started the test 4692 with a counter reading 68.019.214, we will measure the ohmic resistance regularly.

Interim report 03.06.2014:
At the 03.06.2014 we demounted the cable 1.1 after 32.582.736 strokes, because we want to check the condition of the cable elements.

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



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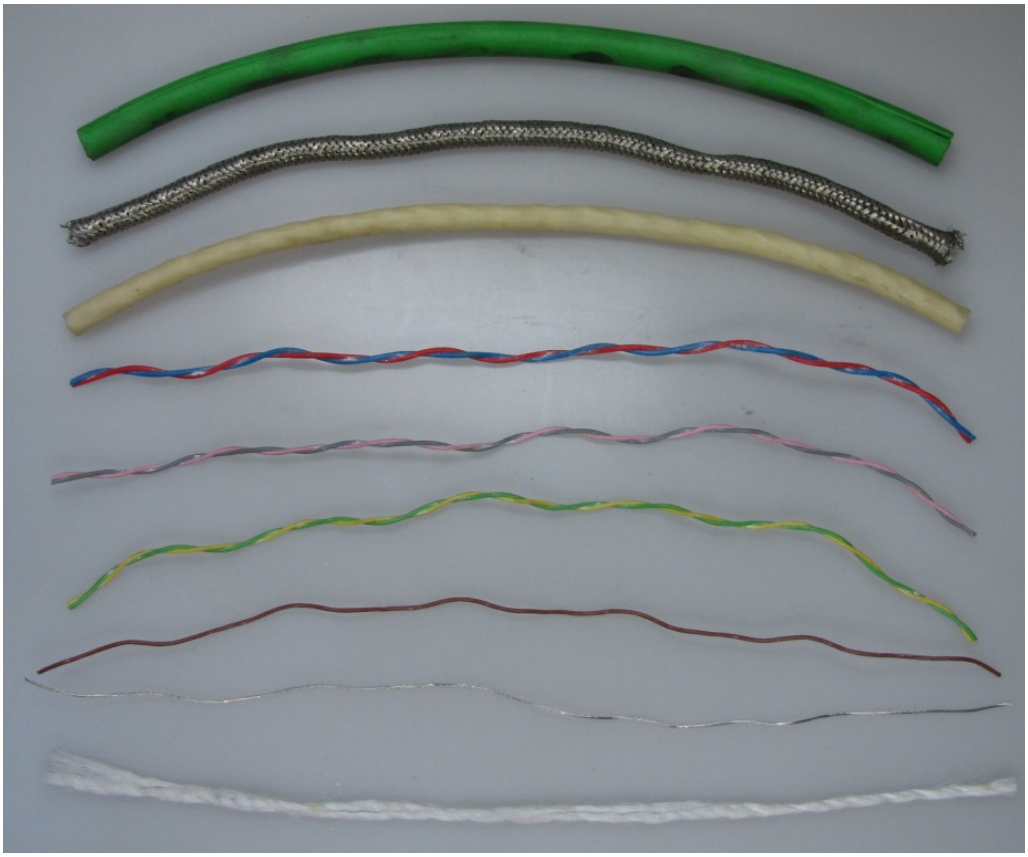
Evaluation

Dissection report:
The following pictures show the dissected elements of the cables

The condition of the cable no.1.1 (CF113.038.D) after 32.582.736 strokes



Strokes	32.582.736
Condition outer jacket	Slightly abrasion
Condition overall shielding	O.K.
Condition inner jacket	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.
Condition centre element	O.K.

Name:	C. Mittelstedt	Date:	03.06.2014

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