Test-Report chainflex®

Test No.: 5192

Test Intention:
In this test we want to investigate the lifespan of our CF887.15.15.02.01 in an e-chain with a 150mm radius.

Client:		
Name: C. Mittelstedt	Team: chainflex®	Date: 13.03.2017

Order-Info:	
Customer / No.: igus® GmbH, Spicher Str.1a, 51147 Köln	
Series / No: CF887	Installation type: horizontal
Customer test: Yes ☐ No ☒	Development test: Yes ☒ No ☐

Technical data		Target & Examination	
e-chain® type:	E6.29.140.150.0	Target [strokes]:	Lifespan
e-chain® radius [mm]:	150	Optical check:	☒
Stroke [m]:	2,1	Fluke DTX-ELT:	☐
Cable length [m]:	5,0	Standard measuring:	☐
Ambient temperature [°C]:	approx. 25°C	AutΩMeS:	☒

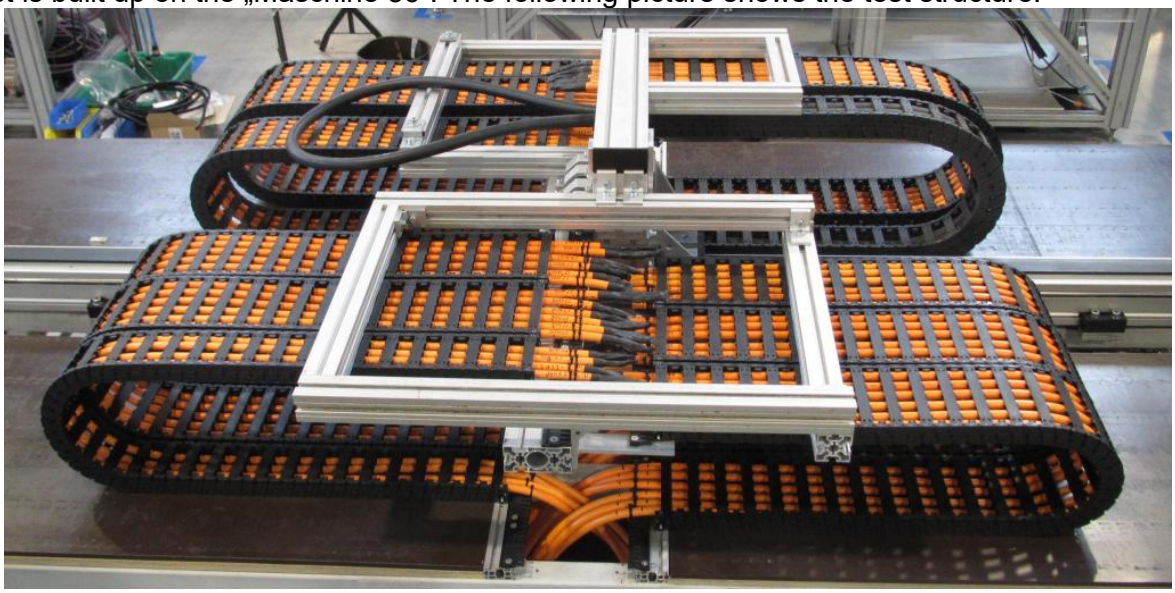
Experimental setup

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: **1x CF887.15.15.02.01** with the cable marking
00121m igus chainflex CF887.15.15.02.01 (4G1,5+(2x1,5)C)C 600/1000V CE C T/BA 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]	External diameter [mm]	Bending factor [xd]	Bending factor catalogue [xd]
1.X	CF887.15.15.02.01	150	11,1	13,6	15,0

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after … strokes
		… mounting	… demounting		
1.1	CF887.15.15.02.01	11.424.955	18.109.331	6.684.376	6.684.376

Test-order was checked by … [Martin Göllner or Christian Mittelstedt and further employee]

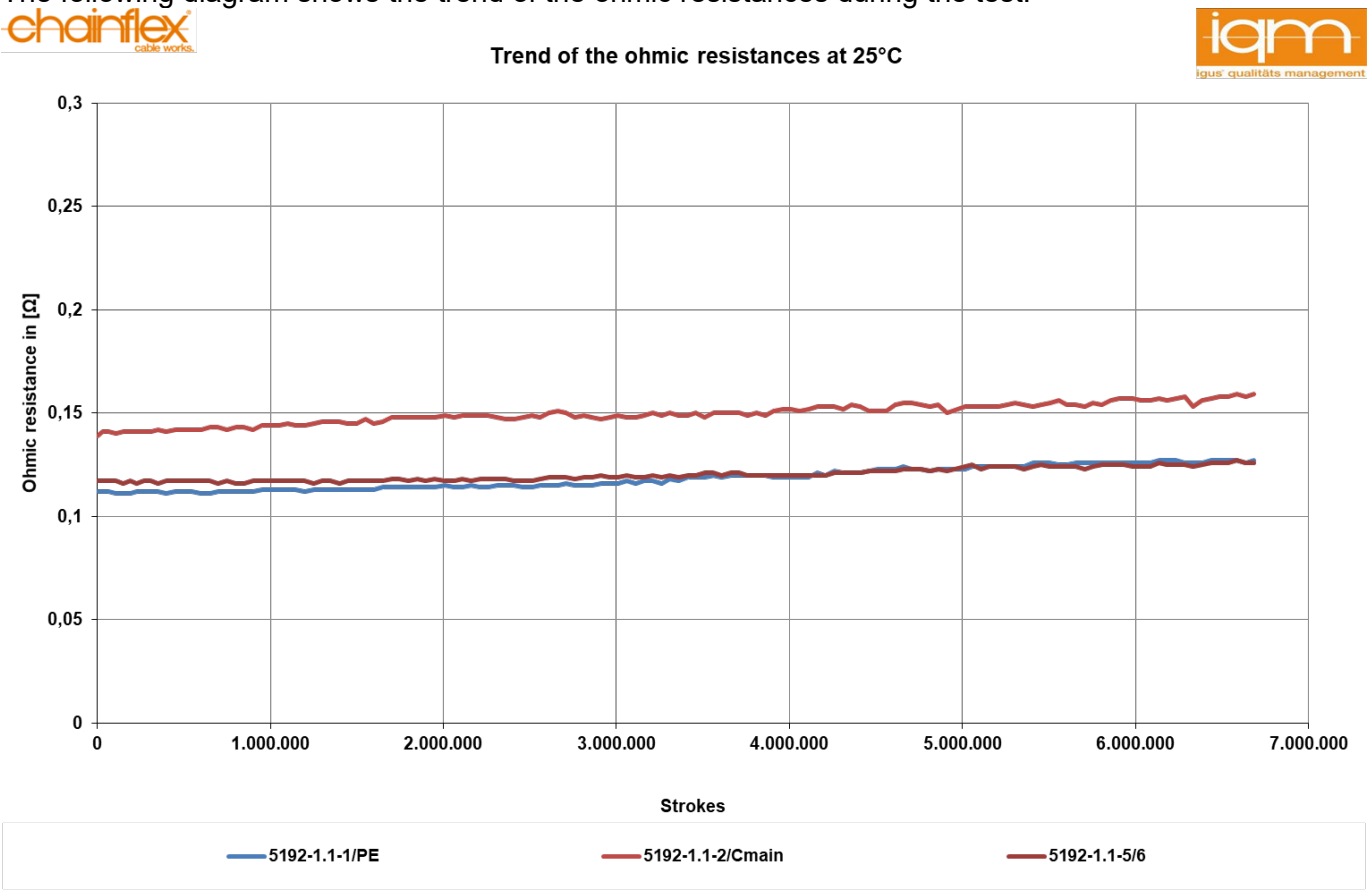
Date:	13.03.2017	Name:		Name:	C. Mittelstedt

Result

Start report 13.03.2017:
At the 13.03.2017 we started the test 5192 at a counter reading of 11.424.955 , we will measure the ohmic resistance regularly through AutΩMeS.

Interim report 26.10.2017:
At the 26.10.2017 we demounted the cable no. 1.1 after 6.684.376 strokes, to check the condition of the cable elements.

The following diagram shows the trend of the ohmic resistances during the test:

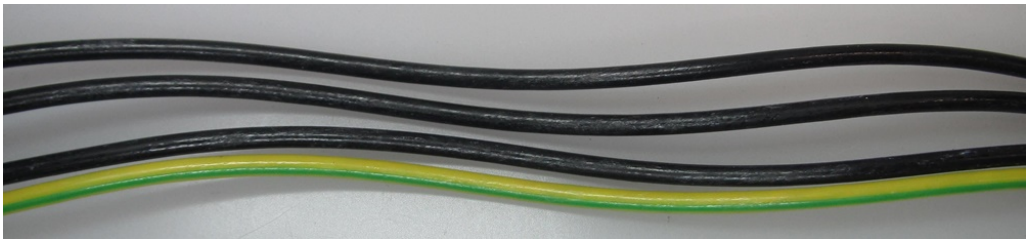


Evaluation

Dissection report:

The following pictures show the dissected elements of the cables

The condition of the cable no. 1.1 (CF887.15.15.02.01) after 6.684.376 strokes



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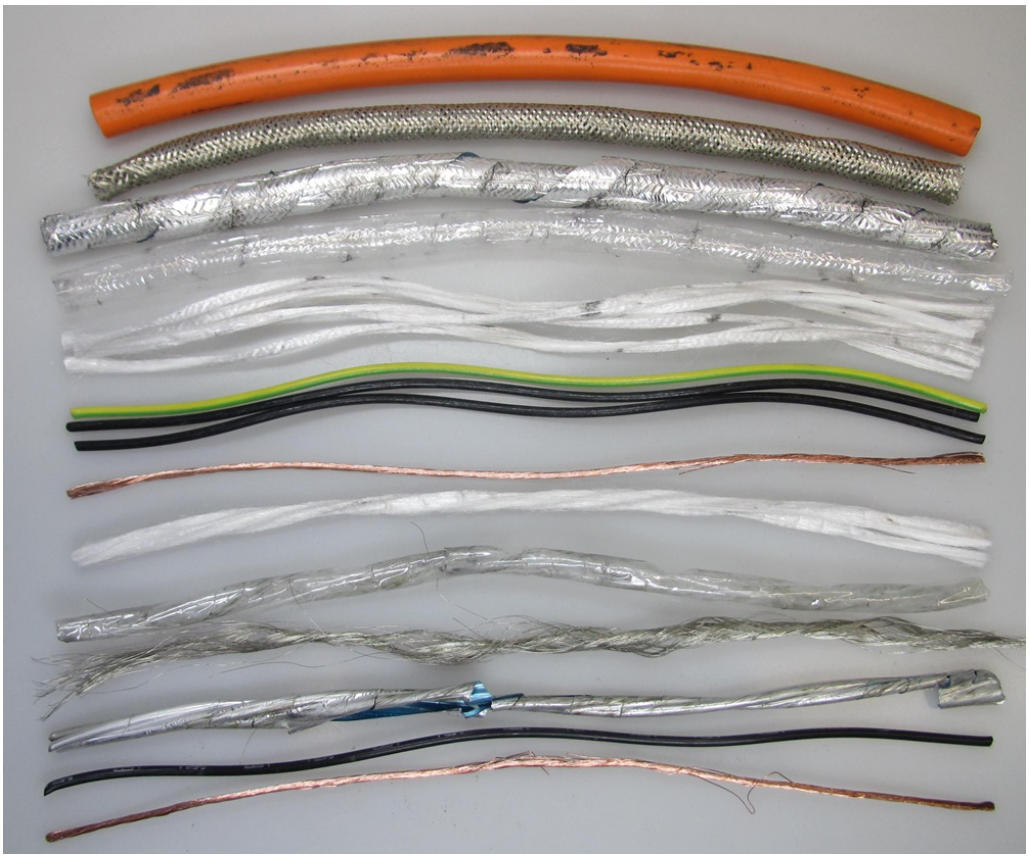

Strokes	6.684.376
Condition outer jacket	O.K.
Condition overall shielding	Single broken wires
Condition foil banding	O.K.
Condition filler	O.K.
Condition centre element	O.K.
Power cores	
Condition core insulation	O.K.
Condition conductor	O.K.
Element bundle	
Condition element banding	O.K.
Condition element shielding	Single broken wires
Condition core insulation	O.K.
Condition conductor	O.K.

Name:	R. Thoß	Date:	13.10.2017