Test-Report chainflex®

Test No.: 4839

Test Intention:
In test 4839 we want to investigate the lifespan of our new CF886.25.04 and CF896.25.04 on the short way.

Client:		
Name: Rainer Rössel	Team: chainflex®	Date: 27.05.2013

Order-Info:	
Customer/ No.: igus® GmbH, Spicher Str.1a 51147 Köln	
Series / No: CF886.25.04, CF896.25.04	Installation type: horizontal, short way
Customer test: Yes ☐ No ☒	Development test: Yes ☒ No ☐

Technical data		Target & Examination	
e-chain® type:	E6.29… // E6.40…	Cable length [m]:	5,0
e-chain® radius [mm]:	125, 100, 75 & 63	Target [double strokes]:	**Lifespan**
Stroke [m]:	2,1	Optical check:	☒
Acceleration **a** [m/sec^2]:	12,0	Function check:	☐
Velocity **v** [m/s]:	3,0	Standard measuring:	☐
Ambient temperature [°C]:	approx. 25°C	AutΩMeS:	☒

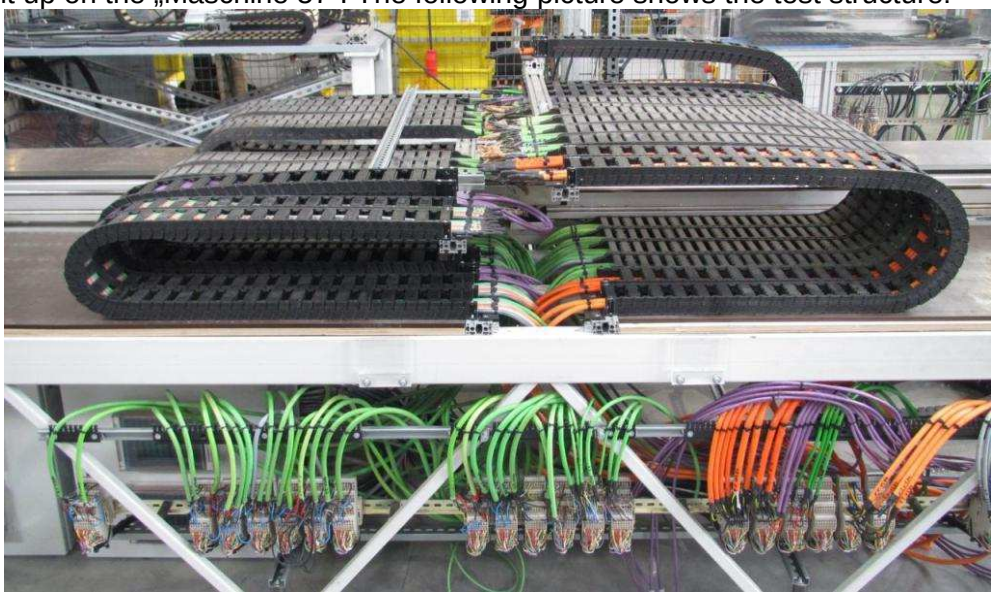
Experimental setup

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 57“. The following picture shows the test structure:



2. Cable and hose packages:

No. 1: **3x CF886.25.04** with the cable marking
00264m igus chainflex CF886.25.04 (4G2,5)C 600/1000V CE C 18/13 RoHS-II conform www.igus.de

No. 2: **3x CF896.25.04** with the cable marking
00021m igus chainflex CF896.25.04 (4G2,5)C 600/1000V CE C 18/13 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 charts give 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.X	CF886.25.04	100	10,0	10,0	15,0
2.X	CF896.25.04	100	10,0	10,0	15,0

Cable no.	Cable type	Counter reading		Effectively tested DS	Cable okay after … DS
		… mounting	… demounting		
1.1	CF886.25.04	20.378.883			
1.2	CF886.25.04	20.378.883	21.827.218	1.448.335	1.448.335
1.3	CF886.25.04	21.827.218			
2.1	CF896.25.04	20.378.883			
2.2	CF896.25.04	20.378.883	21.827.218	1.448.335	1.448.335
2.3	CF896.25.04	21.827.218			

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

Date:	28.05.2013	Name:		Name:	Ch. Mittelstedt

Result

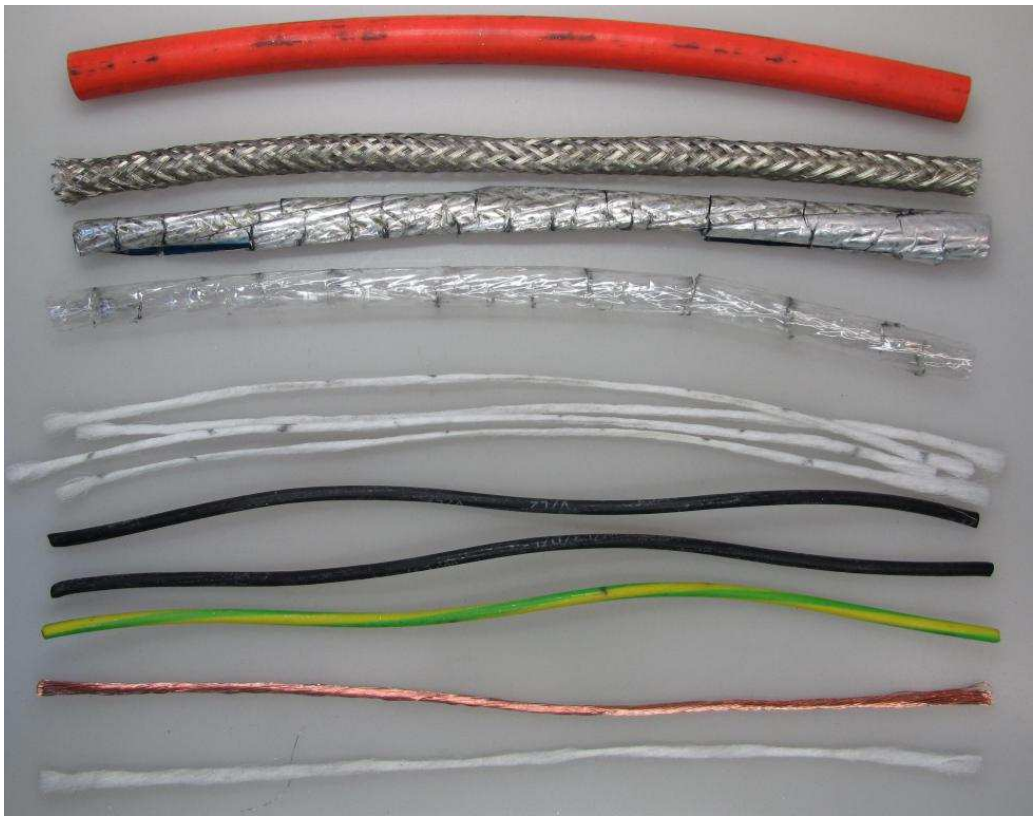
Start report 12.06.2013:
At the 12.06.2013 we started the test 4839 at counter reading 20.378.883, we will measure the ohmic resistance regularly.

Interim report 05.09.2013:
At the 05.09.2013 we demounted the cables X.2 after 1.448.335 double strokes. Also we mounted the cables X.3, we will measure the ohmic resistance regularly.

Evaluation

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

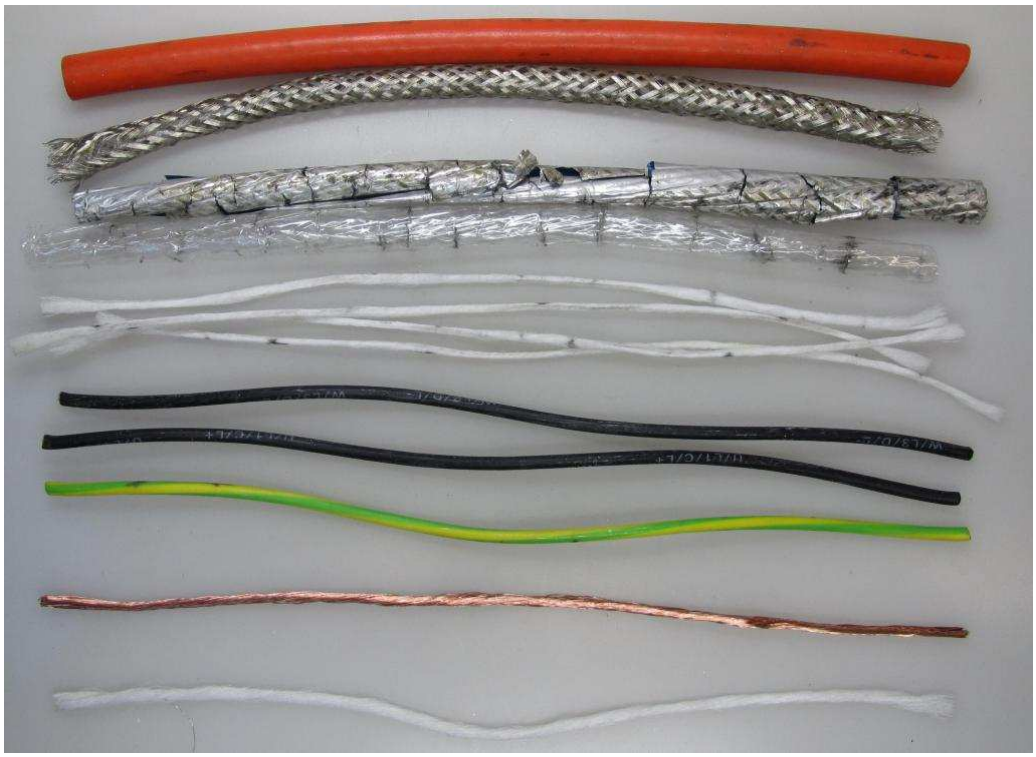
The condition of the cable no. 1.2 (CF886.25.04) after 1.448.335 double strokes



Double strokes [DS]	1.448.335
Condition outer jacket	O.k.
Condition overall shielding	O.k.
Condition 1st banding	O.k.

Condition 2nd banding	O.k.
Condition filler	O.k.
Condition centre element	O.k.
Condition core insulation	O.k.
Condition conductor	O.k.

The condition of the cable no. 2.2 (CF896.25.04) after 1.448.335 double strokes



Double strokes [DS]	1.448.335
Condition outer jacket	O.k.
Condition overall shielding	O.k.
Condition 1st banding	O.k.
Condition 2nd banding	O.k.
Condition filler	O.k.
Condition centre element	O.k.
Condition core insulation	O.k.
Condition conductor	O.k.

Name:	Christian Mittelstedt	Date:	12.09.2013