Test-Report chainflex®

Test No.: **2233**

Test Intention:
In test 2233 we want to investigate the lifespan of a CF5.10.25 in an e-chain with a 100mm radius on the short way.

Client:		
Name: Martin Göllner	Team: chainflex®	Date: 29.11.2005

Order-Info:	
Customer / No.: igus® GmbH, Spicher Str.1a, 51147 Köln	
Series / No: CF5	Installation type: horizontal, short way
Customer test: Yes ☐ No ☒	Development test: Yes ☒ No ☐

Technical data		**Target & Examination**	
e-chain® type:	250.10.100.0	Cable length [m]:	5,0
e-chain® radius [mm]:	100	Target [strokes]:	**Lifespan**
Stroke [m]:	1,5	Optical check:	☒
Acceleration **a** [m/sec²]:	7,5	Function check:	☐
Velocity **v** [m/s]:	2,0	Standard measuring:	☒
Ambient temperature [°C]:	approx. 25°C	AutΩMeS:	☐

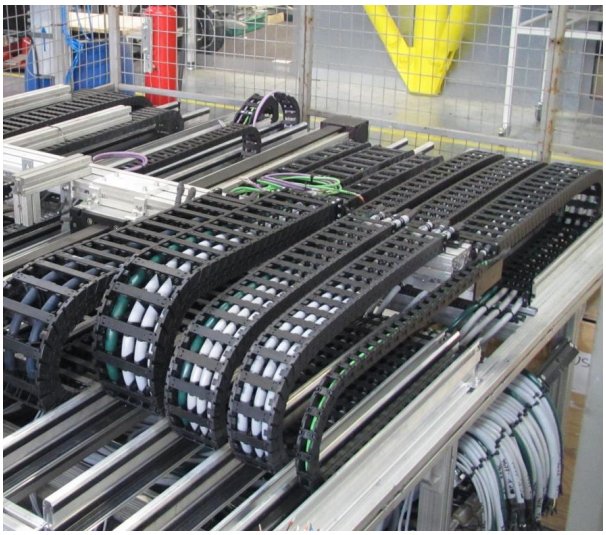
Experimental setup

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:

The following pictures show the test laboratory and test machine, the „2m Bahr“.



2. Cable and hose packages:

No. 1: **2x CF5.10.25** with the cable marking
IGUS CHAINFLEX CF5.10.25 25x1,0 E310776 яU AWM I/II A/B 80°C 600V FT1 CE

3. Description of the cable construction:

Standard igus chainflex® catalogue cable.

4. Remarks:

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	CF5.10.25	100	19,0	5,3	6,8
1.2	CF5.10.25	100	19,0	5,3	6,8

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after … strokes
		… mounting	… demounting		
1.1	CF5.10.25	32.111.280	73.649.736	41.538.456	41.538.456
1.2	CF5.10.25	32.111.280	73.649.736	41.538.456	41.538.456

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

Date:	09.12.2005	Name:		Name:	M. Nahrwold

Result

Start report 09.12.2005:
At the 09.12.2005 we started test 2233 at counter reading 32.111.280 strokes. We will make a visual check regularly.

Interim report 23.10.2008:
At the 23.10.2008 we demounted the cables after 41.538.456 strokes, to finalize the test.

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after … strokes
		… mounting	… demounting		
1.1	CF5.10.25	32.111.280	73.649.736	41.538.456	41.538.456
1.2	CF5.10.25	32.111.280	73.649.736	41.538.456	41.538.456

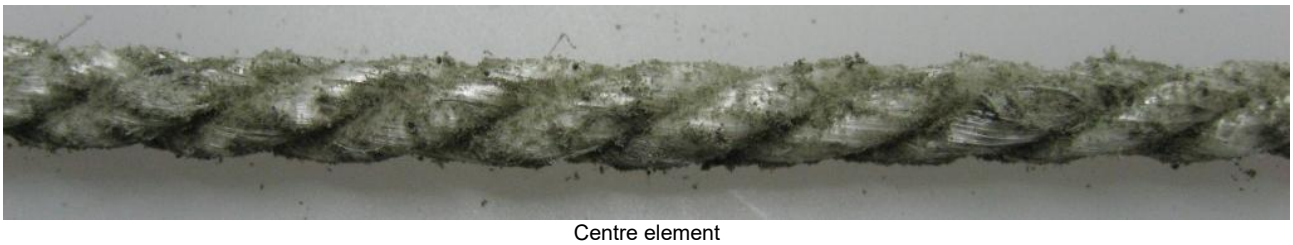
Evaluation

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

The condition of the cable no. 1.1 (CF5.10.25) after 41.538.456 strokes

The outer jacket

Stranding (bundles)



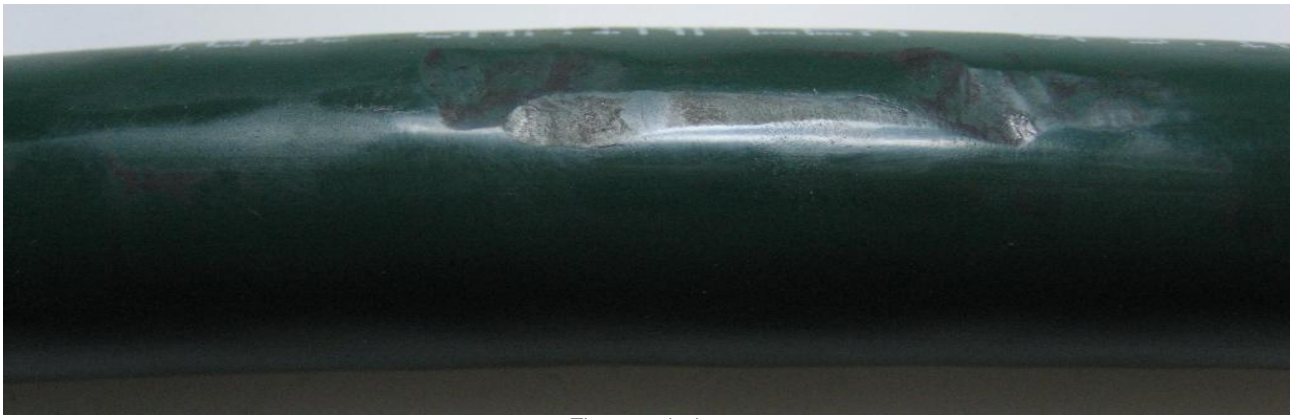
Centre element

Copper conductor

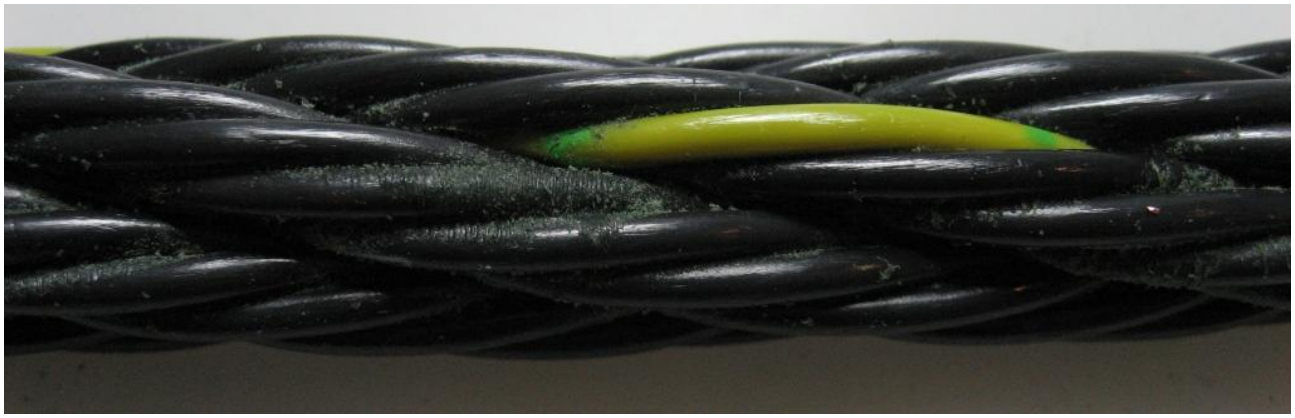
Overview of the dissected pieces of cable of no. 1.1 CF5.10.25 after 41.538.456 strokes

Strokes	41.538.456
Condition outer jacket	O.K.
Condition centre element	O.K.
Bundle	
Condition core insulation	O.K.
Condition conductor	O.K.

The condition of the cable no. 1.2 (CF5.10.25) after 41.538.456 strokes



The outer jacket



Stranding (bundles)

Centre element

Copper conductor

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Test No.: **2233**

Overview of the dissected pieces of cable of no. 1.2 CF5.10.25 after 41.538.456 strokes

Strokes	41.538.456
Condition outer jacket	O.K.
Condition centre element	O.K.
Bundle	
Condition core insulation	O.K.
Condition conductor	O.K.

Name:	Ch. Mittelstedt	**Date:**	06.11.2012