

Test Intention:

In test 4011 we want to investigate the lifespan of the CFLG.2LB.50/125 and CFLG.2LB.62,5/125 in a small bending radius.

Client:

Name: Rainer Rössel

Team: chainflex®

Date: 31.01.2011

Order-Info:

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

Series / No: CFLG.LB

Installation type: Horizontal, short way

Customer test: Yes No

Development test: Yes No

Technical data

Target & Examination

e-chain® type: 1500.100.035

Cable length [m]: 11,0

e-chain® radius [mm]: 35

Target [strokes]: **Lifespan**

Stroke [m]: 0,8

Optical check:

Acceleration **a** [m/sec²]: 4,0

Function check:

Velocity **v** [m/s]: 1,5

Standard measuring:

Ambient temperature [°C]: approx. 25°C

AutΩMeS:

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



2. Cable and hose packages:

No. 1: **1x CFLG.2LB.50/125** with the cable marking
2427m igus CHAINFLEX CFLG.2LB50/125 2x50/125 CE RoHS conform www.igus.de 70247.01

No. 2: **1x CFLG.2LB.62,5/125** with the cable marking
0091m igus CHAINFLEX CFLG.2LB.62,5/125 2x62,5/125 CE RoHS conform www.igus.de 70263.01

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	CFLG.2LB.50/125	35	8,3	4,2	5,0
2.1	CFLG.2LB.62,5/125	35	8,4	4,2	5,0

Cable no.	Cable type.	Counter reading		Effectively tested strokes	Cable okay after ... strokes
		... mounting	... demounting		
1.1	CFLG.2LB.50/125	25.731.514	75.743.866	50.012.352	50.012.352
2.1	CFLG.2LB.62,5/125	25.731.514	75.743.866	50.012.352	50.012.352

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

Date:	31.01.2011	Name:		Name:	Ch. Mittelstedt
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Result

Start Report 07.02.2011:

At the 07.02.2011 we started test 4011 with a counter reading of 25.731.514, we will measure the function regularly.

Interim Report 12.03.2012:

At the 12.03.2012 we demounted the cable no. 1.1 and 2.1 after 50.012.352 strokes, to finalize the test.

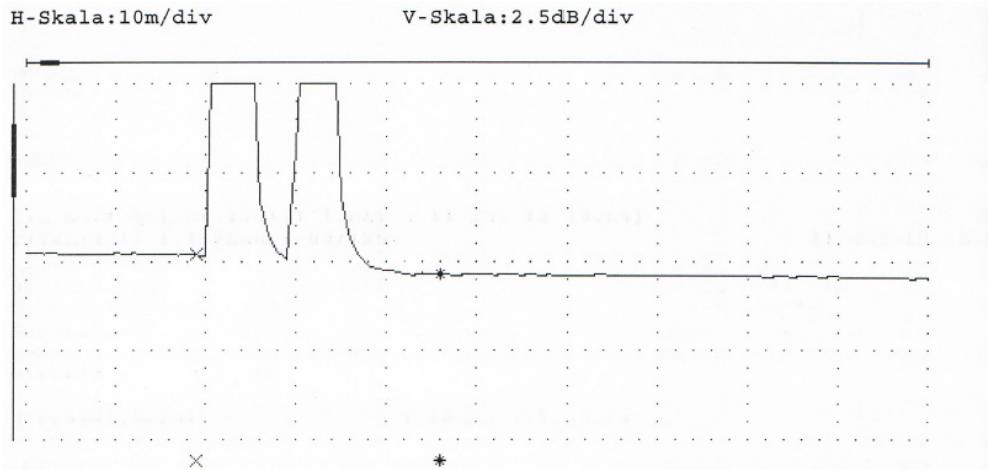
Evaluation

The following pictures show the cable sample

The condition of the cable no.1.1 (CFLG.2LB.50/125) after 50.012.352 strokes



The following occurrence diagram shows exemplarily one direction of fibre no. 1:



External measuring results after 50.012.352 strokes		Total loss [dB]
CFLG.2LB.50/125	Fibre 1	0,52
CFLG.2LB.50/125	Fibre 2	0,89

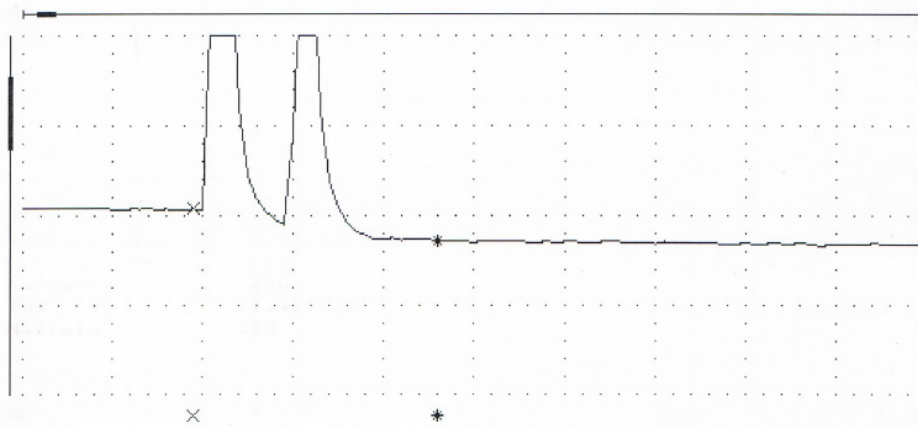
The condition of the cable no.1.2 (CFLG.2LB.62,5/125) after 50.012.352 strokes



The following occurrence diagram shows exemplarily one direction of fibre no. 2:

H-Skala: 10m/div

V-Skala: 2.5dB/div



External measuring results after 50.012.352 strokes		Total loss [dB]
CFLG.2LB.62,5/125	Fibre 1	0,49
CFLG.2LB.62,5/125	Fibre 2	0,34

Name: **Ch. Mittelstedt**

Date: **10.08.2012**