

## Test Intention:

In test 3841a we want to investigate the condition of the actuator cable from the Fast HIWIN.

## Client:

Name: Christian Mittelstedt

Team: chainflex®

Date: 15.08.2012

## Order-Info:

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

Series / No: CF21.UJ

Installation type: horizontal, short way

Customer test: Yes  No

Development test: Yes  No

## Technical data

## Target & Examination

e-chain® type: E6.29.040.100.0

Cable length [m]: 5,0

e-chain® radius [mm]: 100

Target [Strokes]: **Lifespan**

Stroke [m]: 0,8

Optical check:

Acceleration **a** [m/sec<sup>2</sup>]: 3,5

Function check:

Velocity **v** [m/s]: 2,0

Standard measuring:

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

AutΩMeS:

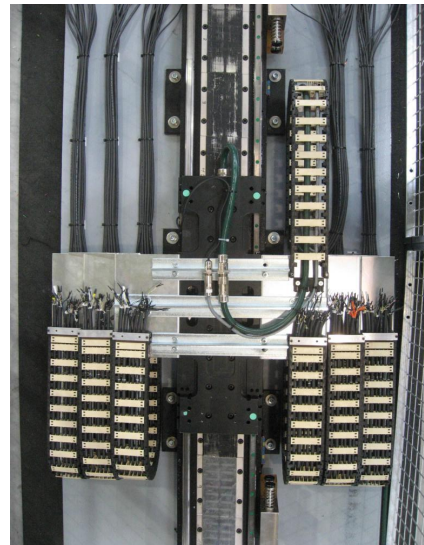
## Experimental setup (Sketch, Photo ...)

### 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 „Fast HIWIN“. The following picture shows the test structure:



## 2. Cable and hose packages:

No. 1: **1x CF21.25.15.02.02.UL** with the cable marking  
*igus CHAINFLEX CF21.25.15.02.02.UL 4x2,5+2x(2x1,5) E48408 C<sub>A</sub>Us AWM Style 2570 AWM  
 I/II A/B 80 °C 1000V FT1 CE*

## 3. Description of the cable construction:

Actuator cable for the Fast HIWIN  
 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
1.1	CF21.25.15.02.02.UL	100	16,3	6,1	7,5

Cable no.	Cable type	Counter reading		Effectively tested Strokes	Cable okay after ... Strokes
		... mounting	... demounting		
1.1	CF21.25.15.02.02.UL	0	53.759.440	53.759.440	53.759.440

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

Date:	<b>14.10.2010</b>	Name:		Name:	<b>Ch. Mittelstedt</b>
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## **Result**

### **Start report 14.10.2010**

At the 14.10.2010 we started the test 3841 at counter reading 0

### **Interim Report 14.06.2012:**

At the 14.06.2012 we demounted the CF21.UL after 53.759.440 strokes, during the modification of the test machine.

## Evaluation

### Dissection report:

The following pictures show the dissected elements of the cable

### The condition of the cable no. 1.1 (CF21.25.15.02.02.UL) after 53.759.440 strokes



Strokes	53.759.440
Condition outer jacket	O.K.
Condition overall shielding	O.K.
Condition inner jacket	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.
Condition element shielding	O.K.
Condition element jacket	O.K.
Condition element conductor	O.K.

Name: **Ch. Mittelstedt**

Date: **16.08.2012**