

Test Intention:

In test 4428 we want to investigate maximum tensile force of CFSPECIAL.182.045 comparing to CFBUS.045 pulled with 2 different strain relief systems.

Client:

Name: Rainer Roessel Team: chainflex® Date: 19.09.2012

Order-Info:

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

Series / No: CFSPECIAL, CFBUS

Installation type: vertical hanging

Customer test: Yes No

Development test: Yes No

Technical data

Target & Examination

e-chain® type: -/-

Cable length [m]: 5,0

e-chain® radius [mm]: -/-

Target: **Maximum tensile force**

Stroke [m]: -/-

Optical check:

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

Fluke DTX-ELT:

Experimental setup (Sketch, Photo ...)

Checklist for the experimental preparations

- additional inscription/label at all wires
- strain reliefs at both ends
- 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 „Zwick“. The following picture shows the test structure:



2. Cable and hose packages:

No. 1: **2x CFSPECIAL.182.045** with the cable marking
*00831m igus chainflex CFSPECIAL.182.045 (4x2x0,15)C E310776 N C RJus AWM Style 20236
VW-1 AWM I/II A/B 80°C 30V FT-1 CE N O/CJ Ethernet/CAT5 conform RoHS-II conform
www.igus.de +++chainflex cable works+++*

No. 2: **2x CFBUS.045** with the cable marking
*013380m igus CHAINFLEX CFBUS.045 (4x2x0,15)C E310776 C RJus AWM Style 21371 VW1
AWM I/II A/B 80°C 30V FT-1 CE N N/DH DESINA Ethernet/CAT5 conform RoHS conform
www.igus.de*

3. Description of the cable construction:

CFSPECIAL.182.045 ready-made with CAT9040020

CFBUS.045 ready-made with CAT9240020

4. Remarks:

We install each cable sample with one of the strain reliefs and pull them with 100N. After pulling it, we will make a function check with the Fluke DT-ELT. We will repeat the procedure and raise the tensile force in certain steps until the function of the samples isn't given any more.

- X.1 with cable pulling Grips
- X.2 with cable cotter



Strain relief for X.1



Strain relief for X.2

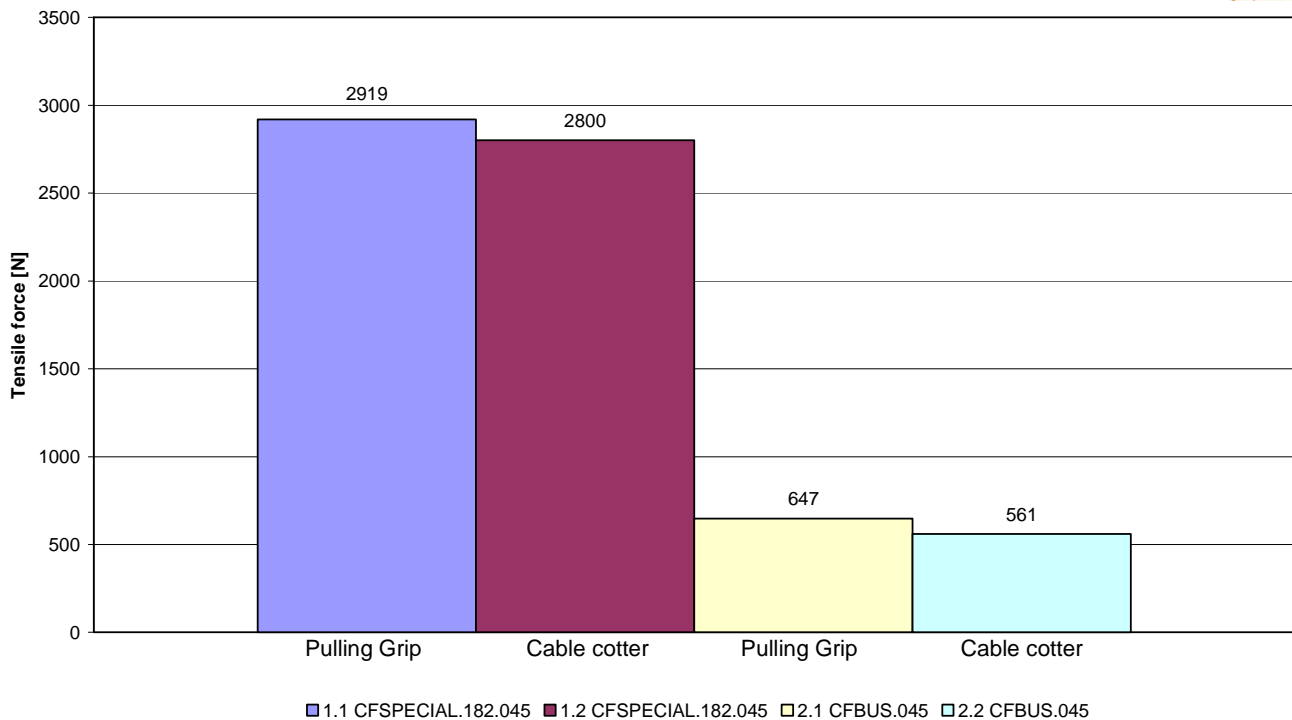
The following chart gives an overview regarding the test parameters:

Cable no.	Cable type	Outer diameter [mm]	Strain relief	Tested tensile force [N]	Catalogue tensile force [N]
1.1	CF SPECIAL.182.045	9,4	Pulling grip	2919	500
1.2	CF SPECIAL.182.045	9,4	Cable cotter	2800	500
2.1	CFBUS.045	7,9	Pulling grip	647	17
2.2	CFBUS.045	7,9	Cable cotter	561	17

The following diagram shows the result of the maximum tensile force test:



Diagram of the maximum tensile force



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

Date:	27.09.2012	Name:		Name:	Christian Mittelstedt
-------	-------------------	-------	--	-------	------------------------------