

DVT Report

Test Item VARISTAR lifting eyes

Identification Test report No.000232

Test Order VARISTAR lifting eyes pull test
According to DIN EN 61010-1 2011_07

Reported by Christophe MARCINKOWSKI

Date 11.07.2014

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1. Assessment

As described in the safety instruction delivered with all equipped cabinets (see picture 4), the standard Varistar lifting eyes kit is released for :

- 340 kg per eye-nut when pulling straight up
- 120 kg per eye-nut when pulling at 45° angle

Both configurations have been tested without failure up to 4 times the released load :

- 1360 kg per eye-nut when pulling straight up
- 480 kg per eye-nut when pulling at 45° angle

The standard lifting eyes kit is therefore compliant with DIN EN 61010-1 2011_07

2. Results

2.1 Vertical pulling :

| Pulling step | Pulling force (kg) | Displacement 1 (mm) | Displacement 2 (mm) | Comments |
|--------------|--------------------|---------------------|---------------------|----------|
| 340kg | 440 | 0.29 | 0.65 | OK |
| 680kg | 701 | 0.47 | 1.00 | OK |
| 1020kg | 1045 | 0.70 | 1.49 | OK |
| 1360kg | 1312 | 1.33 | 2.45 | OK |

Table 1

2.2 45° angle pulling :

| Pulling step | Pulling force (kg) | Displacement 1 (mm) | Displacement 2 (mm) | Comments |
|--------------|--------------------|---------------------|---------------------|----------|
| 240kg | 260 | 0.08 | 0.2 | OK |
| 480kg | 480 | 0.23 | 0.94 | OK |

Table 2

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3. Description of the test

3.1 Test sample(s)

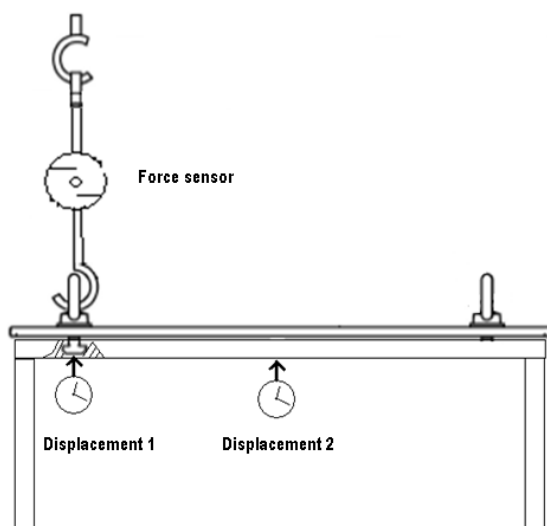
| Quantity | Description | Item number |
|----------|---------------------------------------|-------------|
| 1 | VARISTAR frame SL 1200Hx800Wx1200D | 25139-933 |
| 4 | Plastic bushing | 60130-018 |
| 1 | Top cover 800x1200 | 24130-047 |
| 1 | Lifting eyes kit | 23130-072 |

Table 3

3.2 Test parameters / test set-up / test performed

The top cover and lifting eyes kit are mounted on the frame which is bolted to the floor.

→ Vertical pulling on 1 eye-nut (see picture 2) :



Picture 1: Electrical hoist up to 2000kg

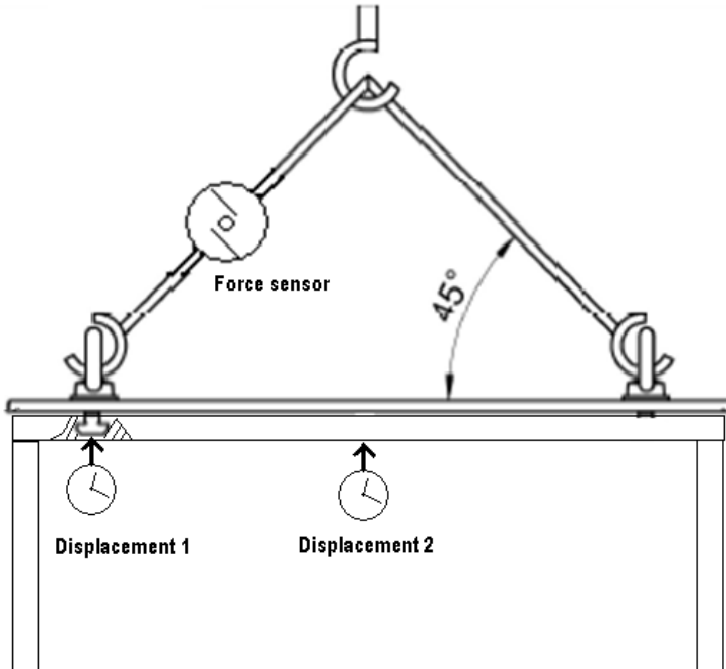
Pulling by steps :

340kg → 680kg → 1020kg → 1360kg → steps of 100kg until pulling out or max 2000kg (max value for the eye-nut according to DIN 582)

Pulling is done using an electrical hoist (see picture 1). At each step, real value of the applied force and both displacement values are noted down.

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→ 45° angle pulling on 2 eye-nuts (see picture 3) :



Picture 2: Electrical hoist up to 2000kg

Pulling by steps (value for 1 eye-nut) :

240kg → 480kg → 720kg → 960kg → steps of 100kg until pulling out or max 1412kg (max value for the eye-nut according to DIN 582)

Pulling is done using an electrical hoist (see picture 1). At each step, real value of the applied force and both displacement values are noted down.

3.3 Test resources / equipment

- 1 electrical hoist up to 2000 kg
- 1 force sensor up to 2500kg with digital display
- 2 dial indicators with digital display
- Lifting hooks and rings

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4. Remarks

None

5. Enclosure(s)



Illustration 3: Electrical hoist up to 2000kg



Illustration 4: Vertical pulling on one eye nut

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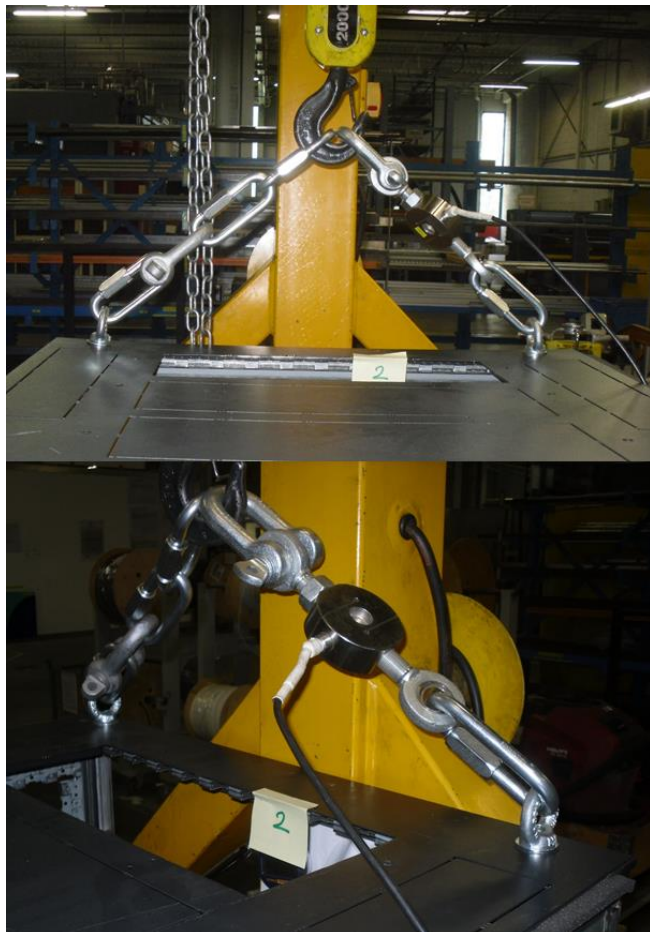





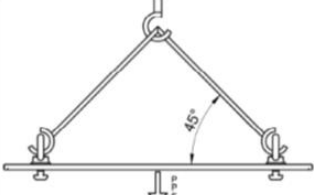
Illustration 6: 45° angle pulling on 2 eye nuts

Benutzeranleitung
VARISTAR
Sicherheitshinweis
für Kranösen M12

User Manual
VARISTAR
Safety instruction
for lifting eyes M12

Instructions utilisateur
VARISTAR
Consignes de sécurité
pour les anneaux
de levage M12

| | |
|--|---|
| Anzugsdrehmoment: Tightening torque: 20 ± 10 Nm Couple de serrage: | |
| Belastungsart Direction of lift Mode d'accrochage | Maximale Belastbarkeit Maximum load-carrying capacity Charge admissible |
|  | 340 kg Gültig für je eine Kranöse Valid for a single lifting eye Poids pour un anneau |
|  | 240 kg Gültig für 2 Kranösen Valid for 2 lifting eyes Poids pour 2 anneaux |
| Vorgeschriebene Werte dürfen nicht überschritten werden. Specified values must not be exceeded. Ne pas dépasser les valeurs indiquées. | |

60130-469 BET Rev A

Illustration 5: Safety instructions delivered with cabinet

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