INSTYTUT TECHNIKI BUDOWLANEJ

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# European Technical Assessment

# ETA-23/0651 of 26/09/2023

## General Part

| | |
|---|---|
| **Technical Assessment Body issuing the European Technical Assessment** | Instytut Techniki Budowlanej |
| **Trade name of the construction product** | Eurofast Flat Roof Fasteners |
| **Product family to which the construction product belongs** | Fasteners for flexible roof waterproofing systems |
| **Manufacturer** | Van Roij Fasteners Europe B.V.<br>(EUROFAST / EUROFAST GROUP)<br>Indumastraat 18<br>5753 RJ Deurne<br>Netherlands |
| **Manufacturing plants** | Van Roij Fasteners Europe B.V. plants |
| **This European Technical Assessment contains** | 320 pages including 21 Annexes which form an integral part of this Assessment |
| **This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of** | European Assessment Document (EAD) 030351-00-0402 “Systems of mechanically fastened flexible roof waterproofing sheets” |

## Specific Part

### 1 Technical description of the product

Eurofast Flat Roof Fasteners are mechanical fasteners comprise a screw, washer, washer with integral sleeve or linear washer. Screws are made of stainless steel or carbon steel protected by ceramic coating Eurofast Coat 15C or Eurofast Coat 30C. Washers (metal pressure plates) and linear washers (termination bars) are made of carbon steel protected by Aluzinc coating. Washers with integrated sleeve (pressure plates with tube) are made of plastic material: polyamide (PA) or polypropylene (PP) with addition of polyethylene (PE).

Eurofast Flat Roof Fasteners are shown in the Annexes to this European Technical Assessment.

The material properties, dimensions and tolerances not indicated in the Annexes shall correspond to the information laid down in the technical information to this European Technical Assessment.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

Eurofast Flat Roof Fasteners are intended to be used for flexible roof waterproofing systems according to EAD 030351-00-0402. The possible substrates are steel or aluminum sheets, concrete, autoclaved aerated concrete, OSB/3 sheets, chipboards, plywood and timber. The plastic parts of the fasteners should not be exposed to UV and water.

The performance given in Section 3 is only valid if the fasteners are used in compliance with the specifications and conditions given in the Annexes.

The provisions made in this European Technical Assessment are based on an assumed working life of the products of 10 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

Systems of mechanically fastened flexible roof waterproofing membrane according to EAD 030351-00-0402 should be covered by a separate ETA.

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Performance of the product

##### 3.1.1 Safety and accessibility in use (BWR 4)

###### 3.1.1.1 Fastener axial loads

Fastener axial loads are given in Annex A.1, A.2, B.1, B.2, C.1, C.2, D.1, D.2, E.1, E.2, F.1, G.1, G.2, H.1, H.2, I.1, I.2, J.1, J.2, K.1, K.2, L.1, L.2, M.1, N.1, N.2, O.1, O.2, P.1, R.1, S.1, T.1 and U.1.

###### 3.1.1.2 Resistance to fastener unwinding

The fasteners are considered to be safe against unwinding. This was evaluated on the basis of the existing field experience of the manufacturer.

###### 3.1.1.3 Mechanical resistance / brittleness of plastic elements

Plastic elements of fasteners are resistant to impact and brittleness, after impact of weight from drop height ≥ 1,0 m.

#### 3.1.1.4 Resistance to corrosion of metallic elements

All elements made of coated carbon steel, subjected to 15 cycles of action of a humid atmosphere containing 2,0 l $SO_2$ do not show more than 15% surface corrosion.

#### 3.1.1.5 Mechanical resistance after heat ageing of plastic fasteners

Plastic elements, after heat ageing, are resistant to impact and brittleness, after impact of weight from drop height ≥ 1,0 m.

### 3.2 Methods used for the assessment

The assessment has been made in accordance with EAD 030351-00-0402.

## 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to Decision 98/143/EC of the European Commission the system 2+ of assessment and verification of constancy of performance applies (see Annex V to regulation (EU) No 305/2011).

## 5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document (EAD)

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

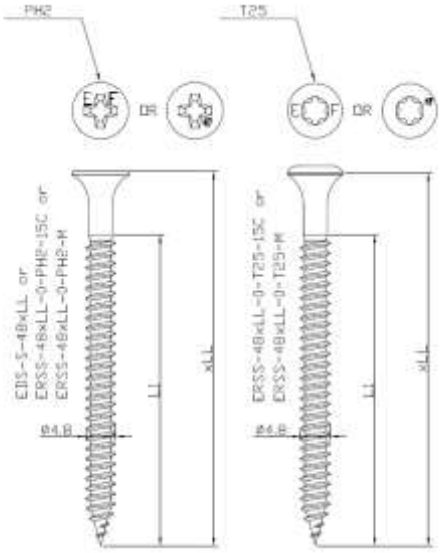
For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

Issued in Warsaw on 26/09/2023 by Instytut Techniki Budowlanej



Anna Panek, MSc

Deputy Director of ITB




| **Characteristic Values of Axial Pull-Out Resistance [kN]** (according to Fig. 3 of EAD 030351-00-0402) | | | | | | |
|---|---|---|---|---|---|---|
| | Steel S320GD* | | | | | |
| t [mm] | 0,60 | 0,63 | 0,70 | 0,75 | 0,80 | 0,88 |
| EDS-S-48xLL (ERSS-48xLL-0-PH2-15C or ERSS-48xLL-0-PH2-M) | 0,94 | 0,94 | 1,44 | 1,53 | 1,55 | 1,55 |
| ERSS-48xLL-0-T25-15C (ERSS-48xLL-0-T25-M) | 0,94 | 0,94 | 1,44 | 1,53 | 1,55 | 1,55 |

* when using steel S280GD, values must be reduced by 8%

| **Characteristic Values of Axial Pull-Out Resistance [kN]** (according to Fig. 3 of EAD 030351-00-0402) | | | | | | | |
|---|---|---|---|---|---|---|---|
| | OSB/3 | | | Chipboard | Plywood | | Timber C24 |
| t [mm] | 18 | 21 | 25 | 19 | 18 | 21 | 24 |
| EDS-S-48xLL (ERSS-48xLL-0-PH2-15C or ERSS-48xLL-0-PH2-M) | 1,04 | 1,20 | 1,22 | 1,12 | 0,94 | 1,02 | 1,99 |
| ERSS-48xLL-0-T25-15C (ERSS-48xLL-0-T25-M) | 1,04 | 1,20 | 1,22 | 1,12 | 0,94 | 1,02 | 1,99 |

| **Characteristic Values of Axial Pull-Through* Resistance [kN]** (according to Fig. 4 and 5 of EAD 030351-00-0402) | | | | | |
|---|---|---|---|---|---|
| | DVP-EF-7005D (EPM-70D-5.0-0.5) | DVP-EF-7007D (EPM-70D-6.0-0.7) | DVP-EFB-51NS (EPM-B-51N-5.4-0.84) | DVP-EF-51N (EPM-51N-6.7-0.84) | EPM-IP-80-6.8-0.8 |
| | DVP-EF-7005N (EPM-70N-5.1-0.5) | DVP-EF-7007H (EPM-70H-6.0-0.7) | - | - | EPM-IT-80-6.8-0.8 |
| | - | DVP-EF-7007N (EPM-70N-6.0-0.7) | - | - | EPM-IE-80-6.8-0.8 |
| EDS-S-48xLL (ERSS-48xLL-0-PH2-15C or ERSS-48xLL-0-PH2-M) | 2,36 | 2,91 | 3,87 | 2,93 | 2,92 |
| ERSS-48xLL-0-T25-15C (ERSS-48xLL-0-T25-M) | 2,36 | 2,91 | 3,87 | 2,93 | 2,92 |

* "Pull-over" according to CEN/TS 17659:2021

**Eurofast Flat Roof Fasteners**

EDS-S-48xLL (ERSS-48xLL-0-PH2-15C or ERSS-48xLL-0-PH2-M)
(ERSS-48xLL-0-T25-15C or ERSS-48xLL-0-T25-M)

**Annex A.1**

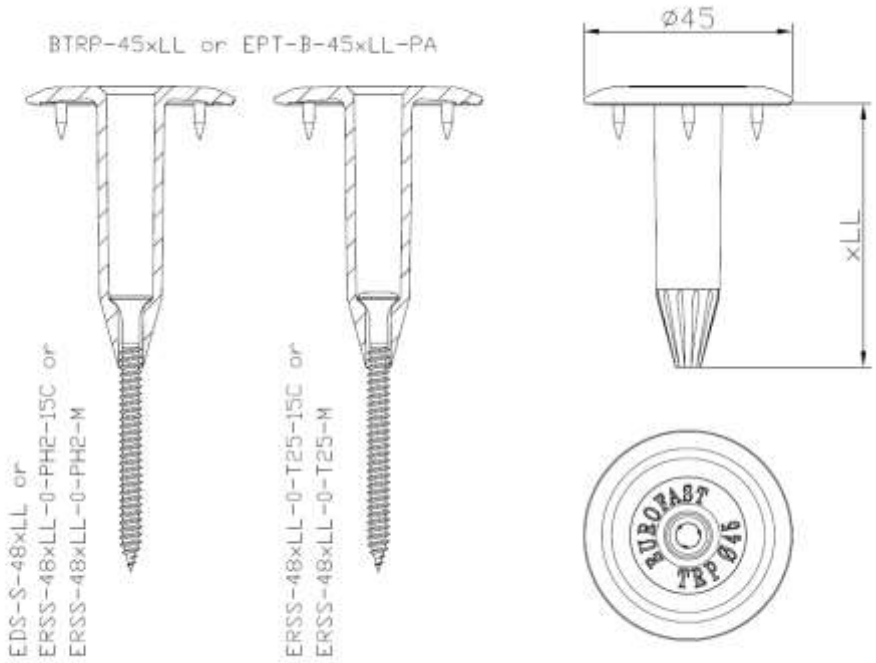
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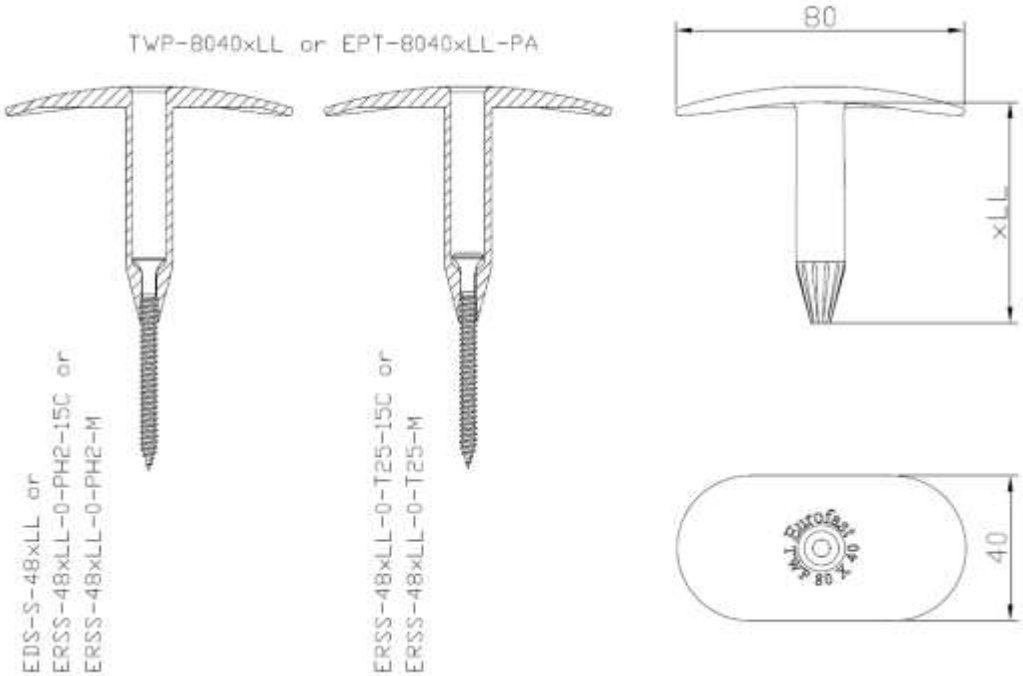
| **Characteristic Values of Axial Pull-Through* Resistance [kN]** (according to Fig. 4 and 5 of EAD 030351-00-0402) | | | |
|---|---|---|---|
| | BIO-45xLL<br>(EPT-45xLL-BIO) | TLK-45xLL<br>(EPT-45xLL-PP) | EDF-BAR F<br>(ETM-2250-30-4.8-8.5-1.0) |
| | TRP-45xLL<br>(EPT-45xLL-PA) | HTLK-45xLL<br>(EPT-O-45xLL-PP) | EDF-BAR FB<br>(ETM-B-2250-30-4.8-8.5-1.0) |
| | BTRP-45xLL<br>(EPT-B-45xLL-PA) | TLK-75xLL<br>(EPT-75xLL-PP) | DVP-EF-5010DFR<br>(EPM-50D-4.85-1.0) |
| | TWP-8040xLL<br>(EPT-8040xLL-PA) | DVP-DL-70N + TLK-45xLL<br>(EPM-EDL-70N-20-0.5 + EPT-45xLL-PP) | DVP-EF-7070D<br>(EPM-7070D-4.85-1.0) |
| | EDF-BAR F-TUBE + KMT-15xLL<br>(ETM-T-2250-30-6.5-8.3-15.0-1.0 + EPT-15xLL-PA) | - | DVP-EF-7010DFR<br>(EPM-70D-4.85-1.0) |
| | DVP-KMT-8240 + KMT-15xLL<br>(EPM-T-8240N-13.6-1.0 + EPT-15xLL-PA) | - | DVP-EF-8240D<br>(EPM-8240D-4.85-1.0) |
| | EPM-T-IP-80-13.6-0.8 + KMT-15xLL<br>(EPM-T-IP-80-13.6-0.8 + EPT-15xLL-PA) | - | DVP-EF-8240XH<br>(EPM-8240XH-4.85-1.0) |
| | EPM-T-IT-80-13.6-0.8 + KMT-15xLL<br>(EPM-T-IT-80-13.6-0.8 + EPT-15xLL-PA) | - | DVP-EFB-8240D<br>(EPM-B-8240D-4.85-1.0) |
| | EPM-T-IE-80-13.6-0.8 + KMT-15xLL<br>(EPM-T-IE-80-13.6-0.8 + EPT-15xLL-PA) | - | DVP-EFZK-8240D<br>(EPM-ZK-8240D-4.85-1.0) |
| | DVP-DL-70N + TRP-45xLL<br>(EPM-EDL-70N-20-0.5 + EPT-45xLL-PA) | - | DVP-EFF-8040D<br>(EPM-8040D-4.85-1.0) |
| EDS-S-48xLL<br>(ERSS-48xLL-0-PH2-15C<br>or ERSS-48xLL-0-PH2-M) | 2,67 | 1,77 | 5,18 |
| ERSS-48xLL-0-T25-15C<br>(ERSS-48xLL-0-T25-M) | 2,67 | 1,77 | 5,18 |

* "Pull-over" according to CEN/TS 17659:2021

| **Characteristic Values of Axial Pull-Through* Resistance [kN]** (according to Fig. 4 and 5 of EAD 030351-00-0402) | | | | |
|---|---|---|---|---|
| | EDF-BAR F-TUBE<br>(ETM-T-2250-30-6.5-8.3-15.0-1.0) | DVP-EF-4010N<br>(EPM-40N-6.0-1.0) | DVP-EF-5010D<br>(EPM-50D-6.3-1.0) | DVP-DF-7070D<br>(EPM-7070D-7.0-1.0) |
| | DVP-EF-7010D<br>(EPM-70D-6.5-1.0) | - | DVP-EF-5010N<br>(EPM-50N-6.3-1.0) | DVP-DF-8240D<br>(EPM-8240D-7.0-1.0) |
| | DVP-EF-7010N<br>(EPM-70N-6.5-1.0) | - | - | DVP-DF-8240H<br>(EPM-8240H-7.0-1.0) |
| | DVP-EF-8040D<br>(EPM-8040D-6.5-1.0) | - | - | DVP-DF-8240XH<br>(EPM-8240XH-7.0-1.0) |
| | DVP-EF-8040N<br>(EPM-8040N-6.5-1.0) | - | - | DVP-DFB-8240D<br>(EPM-B-8240D-7.0-1.0) |
| EDS-S-48xLL<br>(ERSS-48xLL-0-PH2-15C<br>or ERSS-48xLL-0-PH2-M) | 5,05 | 4,43 | 3,89 | 2,96 |
| ERSS-48xLL-0-T25-15C<br>(ERSS-48xLL-0-T25-M) | 5,05 | 4,43 | 3,89 | 2,96 |

* "Pull-over" according to CEN/TS 17659:2021




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|---|---|
| **Eurofast Flat Roof Fasteners** | **Annex A.5**<br>of European Technical Assessment ETA-23/0651 |
| EDS-S-48xLL (ERSS-48xLL-0-PH2-15C or ERSS-48xLL-0-PH2-M) (ERSS-48xLL-0-T25-15C or ERSS-48xLL-0-T25-M) | |