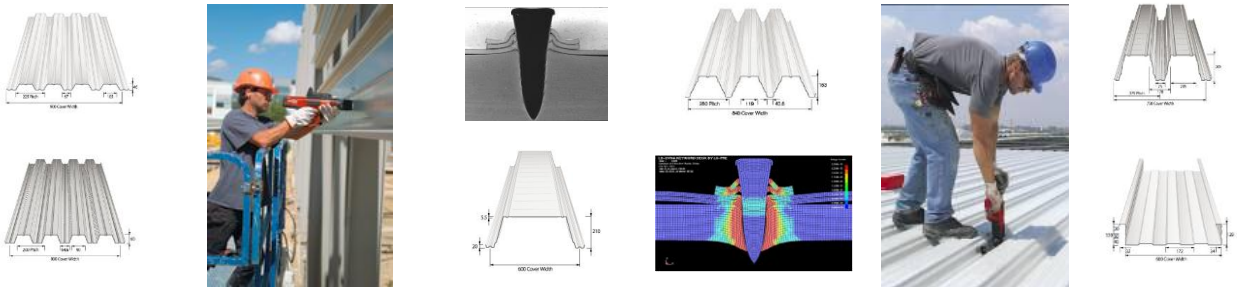
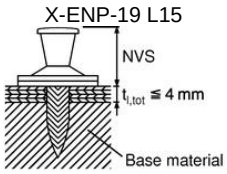
# Fixing Tata Steel RoofDek to steel beams for steel decks and trays with a minimum grade S280

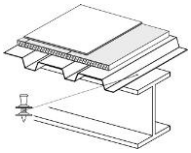


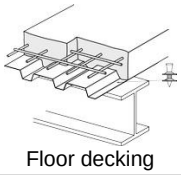
## X-ENP Siding and Decking Nail

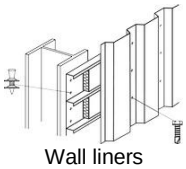



| **Material Specification**<br>Carbon Steel shank:<br>HRC 58±1<br>Zinc Coating: 8-16 µm | **Approvals**<br>ETA-04/0101 (Europe),<br>UL R13203, FM 3021719 (USA),<br>MLIT (Japan) |
|---|---|
| **Fastening tools** | **Nail** |
| DX 76 MX<br>DX 76 PTR | X-ENP-19 L15 MX |
| DX-860-ENP, | X-ENP-19 L15 MXR |

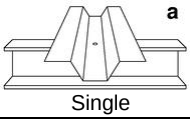
## Applications


Roof decking

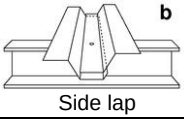

Floor decking


Wall liners

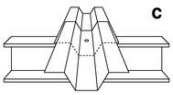
## Sheet Thickness and overlap types



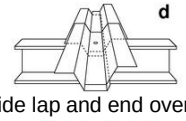
Single



Side lap



End overlap



Side lap and end overlap

| nominal sheeting thickness $t_1$ mm | allowable overlap types | |
|---|---|---|
| 0.63 - 1.00 | **a, b, c, d** | |
| > 1.00 - 1.25 | **a, c** | Additional ENP19 pins can be used for b,c & d but need to be discounted from the overall load calculations; Details from technical services 0161 886 1144 |
| > 1.25 – 2.50 | **a** | |


Note: Maximum combined thickness fastened is 4mm

## Characteristic & Recommended Loads

**Steel Sheeting** minimum tensile strength ≥ 360 N/mm$^2$

| TATA STEEL | Nominal sheet thickness | trapezoidal profile (symmetric loading) | | | | liner trays[1] (asymmetric loading) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | char. resistance according to ETA-04/0101 | | recommended loads | | char. resistance according to ETA-04/0101 | | recommended loads | |
| Profile references Including Perforated options | $t_1$ (mm) | shear $V_{Rk}$ [kN] | tension $N_{Rk}$ [kN] | shear $V_{Rec}$ [kN] | tension $N_{Rec}$ [kN] | shear $V_{Rk}$ [kN] | tension $N_{Rk}$ [kN] | shear $V_{Rec}$ [kN] | tension $N_{Rec}$ [kN] |
| D19/D32S/D35/D46/ D60/D100 | 0.7 | 4.39 | 4.97 | 2.32 | 2.66 | 3.08 | 3.49 | 1.64 | 1.87 |
| D135/D153/D158/D200/ HL600/130 | 0.75 | 4.67 | 5.59 | 2.48 | 2.99 | 3.28 | 3.91 | 1.74 | 2.10 |
| D135/D153/D158/D200 | 0.88 | 5.40 | 7.20 | 2.90 | 3.85 | 3.80 | 5.00 | 2.00 | 2.70 |
| D19/D32S/D35/D46/ D60/D100 | 0.90 | 5.50 | 7.33 | 2.95 | 3.92 | 3.87 | 5.10 | 2.04 | 2.75 |
| HL600 | 1.00 | 6.00 | 8.00 | 3.20 | 4.25 | 4.20 | 5.60 | 2.25 | 3.00 |

(Table continues overleaf)

| TATA STEEL | Nominal sheet thickness | trapezoidal profile (symmetric loading) | | | | liner trays[1] (asymmetric loading) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | char. resistance according to ETA-04/0101 | | recommended loads | | char. resistance according to ETA-04/0101 | | recommended loads | |
| Profile references Including Perforated options | $t_1$ (mm) | shear $V_{Rk}$ [kN] | tension $N_{Rk}$ [kN] | shear $V_{Rec}$ [kN] | tension $N_{Rec}$ [kN] | shear $V_{Rk}$ [kN] | tension $N_{Rk}$ [kN] | shear $V_{Rec}$ [kN] | tension $N_{Rec}$ [kN] |
| D19/D32S/D35/D46/ D60/D100 | 1.20 | 7.58 | 8.63 | 4.04 | 4.62 | 5.31 | 6.08 | 2.85 | 3.24 |
| D135/D153/D158/D200/ D159/D210 | 1.25 | 8.00 | 8.80 | 4.25 | 4.70 | 5.60 | 6.20 | 3.00 | 3.30 |
| D200 | 1.50 | 8.60 | 8.80 | 4.60 | 4.70 | 6.00 | 6.20 | 3.20 | 3.30 |

(See notes below)

- $N_{Rk}$ and $V_{Rk}$ are valid for steel sheet with minimum tensile strength ≥ 360 N/mm$^2$ (≥ S280 EN 10326).
- Minimum structural steel thickness 6mm, See Hilti Technical data for more details concerning edge distance and fixing spacing
- Recommended loads $N_{rec}$ and $V_{rec}$ are appropriate for Eurocode 1 wind loading design with a partial safety factor $\gamma_F$ =1.5 for wind load and a partial resistance factor $\gamma_M$ = 1.25 for the fastening.

[1] Required load reduction is taken into account in accordance with Eurocode 3-1-3, section 8.4 (9) and fig. 8.2.

Note this is a Quick Reference Guide to be used for initial fastener selection only – for critical fixings check the full technical data available in the Hilti Direct Fastening Technology manual or available in our internet technical library at www.hilti.co.uk/technical

**HILTI TECHNICAL ADVISORY SERVICE**
**TELEPHONE 0161 886 1144**

## IMPORTANT NOTES

1. The information and recommendations given herein are believed to be correct at the time of writing. The data has been obtained from tests done under laboratory, or other controlled, conditions and it is the users' responsibility to use the data given in the light of conditions on site and taking account of the intended use of the products concerned. Whilst Hilti (Gt. Britain) Limited can give general guidance and advice, the nature of Hilti products means that the ultimate responsibility for selecting the correct product for a particular application must lie with the customer.
2. All products must be used, handled and applied in accordance with current instructions for use published by Hilti (Gt. Britain) Limited.
3. All products are supplied, and advice given, subject to Hilti (Gt. Britain) Limited terms of business.
4. Hilti's policy is one of continuous development. We therefore reserve the right to alter specifications etc. without notice.
5. Construction materials and conditions vary on different sites. If it is suspected that the base material has insufficient strength to achieve a suitable fixing, contact the Hilti Technical Advisory Service.

| CONSTRUCTION FIXINGS association | Hilti (Gt. Britain) Ltd is a member of the Construction Fixings Association. |
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