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EXPANDET®

Declaration of Performance

**Svedebuen 2-6 DK-3230**
**Tlf.: +45 70227979**
**salg@kyocera-senco.dk**

*No. DEA990915 (ver.2)*

# Expandet ESI Xtreme Pro (Styrene Free Injection Mortar)

| **Intended use or uses of the construction product according to ETAG 001 parts 1 and 5 EOTA TR023** | | |
|---|---|---|
| Generic type | | Bonded anchor for anchorage of post-installed rebar |
| Base material | | Concrete C12/15 to C50/60 (CL 0,40) acc. to EN 206-1:2003 |
| Use | Material | Straight deformed reinforcing bars, diameter 8 - 32 mm, mechanical properties according Annex C, EN 1992-1-1 & EN 10080. (Class B & C are recommended) |
| Loading | | Static and quasi-static loads |
| Service temperature range | | -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C). |
| Use category 1 | | Dry and wet concrete. Overhead installation is allowed. Drilling performed with hammer drilling or compressed air drilling.<br>• Overlapping joints with existing reinforcement in a building component<br>• Anchoring of the reinforcement at a slab or beam support; end support/bearing of a slab designed as simply supported as well as its reinforcement for restraint forces.<br>• Anchoring of reinforcement of building components stressed primarily in compression.<br>• Anchoring of reinforcement to cover the line of acting tensile forces. |
| | | |
| ETA - 16/0960 issued by | | DIBT |
| On the basis of | | ETAG 001 Part 5, April 2013 used as European Assessment Document acc. to Art. 66 § 3 of Regulation (EU) No 305/2011. |
| Notified Body | | NB 2873 |

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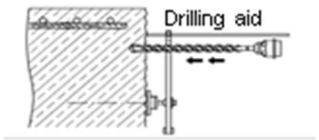
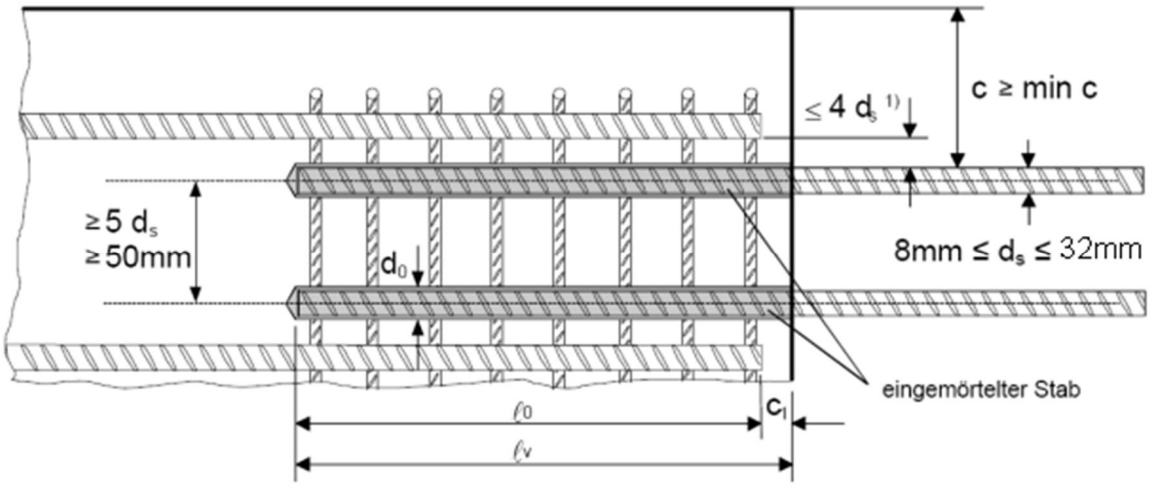
**Declared performances according to ETAG 001 & TR023**

| Essential Characteristics | | | | Performance | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ø 8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 | Ø22 | Ø24 | Ø25 | Ø28 | Ø32 |
| **Installation parameters** | | | | | | | | | | | | | | |
| Ø $d_s$ | Diameter of rebar | [mm] | | 8 | 10 | 12 | 14 | 16 | 20 | 22 | 24 | 25 | 28 | 32 |
| $d_0$ | Nominal diameter of drill bit | [mm] | | 12 | 14 | 16 | 18 | 20 | 25 | 28 | 32 | 32 | 35 | 40 |
| $l_v$ | Max permissible anchorage depth | [mm] | | 10 | 100 | 120 | 140 | 160 | 200 | 200 | 200 | 200 | 100 | 100 |

| | | | | |
|---|---|---|---|---|
| Minimum concrete cover | Drilling Method | Rebar ø | Without drilling aid | With drilling aid |
| | Hammer drilling (HD) | < 25 | 30 mm + 0,06 · $l_v$ ≥ 2 φ | 30 mm + 0,02 · $l_v$ ≥ 2 φ |
| | | ≥ 25 | 40 mm + 0,06 · $l_v$ ≥ 2 φ | 40 mm + 0,02 · $l_v$ ≥ 2 φ |
| | Compressed air drilling (CD) | < 25 | 50 mm + 0,08 · $l_v$ | 50 mm + 0,02 · $l_v$ |
| | | ≥ 25 | 60 mm + 0,08 · $l_v$ | 60 mm + 0,02 · $l_v$ |




Design values of ultimate bond resistance $f_{bd}$ (1,2 for all drilling methods and good bond conditions

| Essential Characteristics | | | | Performance | |
|---|---|---|---|---|---|
| | | | | Ø8 to Ø25 | Ø28 to Ø32 |
| $f_{bd}$ | Concrete class | C12/15 | [N/mm²] | 1,6 | 1,6 |
| $f_{bd}$ | Concrete class | C16/20 | [N/mm²] | 2,0 | 2,0 |
| $f_{bd}$ | Concrete class | C20/25 | [N/mm²] | 2,3 | 2,3 |
| $f_{bd}$ | Concrete class | C25/30 | [N/mm²] | 2,7 | 2,7 |
| $f_{bd}$ | Concrete class | C30/37 | [N/mm²] | 3,0 | 3,0 |
| $f_{bd}$ | Concrete class | C35/45 | [N/mm²] | 3,4 | 3,4 |
| $f_{bd}$ | Concrete class | C40/50 | [N/mm²] | 3,7 | 3,7 |
| $f_{bd}$ | Concrete class | C45/55 | [N/mm²] | 4,0 | 3,7 |
| $f_{bd}$ | Concrete class | C50/60 | [N/mm²] | 4,3 | 3,7 |

(1 Values for $f_{bd}$ are valid for good bond conditions according to EN 1992-1-1. For all other bond conditions multiply the values for $f_{bd}$ by 0.7.

(2 Design values for $f_{bd}$ is based on a $\gamma_c$ = 1,5 acc. to Eurocode 1992-1-1

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The performance of the product identified above is in conformity with the set of declared performance/s.
This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of Expandet Screw Anchors A/S by:

**Place and date of issue: Græsted, 23-02-2022**

**Lars Aa. Mortensen, Head of Technical Department**