# Through bolt S-KA+ 12/70/50 ZP

SORMAT CODE 9640001345



**Improved premium-quality through bolts for fixing in non-cracked and cracked concrete**

- Torque-controlled expansion anchors for pre-, push-through and distance installations.
- When torque is applied the expansion clip expands developing frictional grip with the drill hole walls.
- Anchor diameter and max. fixture thicknesses marked on the body. Anchor length letter code marked on the bolt head.
- M8, M10 and M12 have two different anchorage depths.
- The use of S-KA setting tool makes serial installation safer and quicker.
- Seismic performance category C1/C2 ($h_{ef,std}$).
- ZP for dry indoor use.

## PRODUCT OVERVIEW

| | |
|---|---|
| **Other codes** | SNRO 1324091 / LVI 3253677 |
| **Material** | Steel, zinc plated |
| **Packages** | box (bag): 20 / outer carton: 100 / pallet: 5600 |
| **Weight** | 126.3 kg / 1000 |
| **GTIN-13** | 6416031013454 |

## APPLICATIONS

- Steel structures
- Column base plates
- Seatings
- Barriers
- Cable racks
- Handrails
- Ladders
- Façade systems

## BASE MATERIALS

APPROVED FOR

- Cracked concrete
- Non-cracked concrete

ALSO SUITABLE FOR

- Natural stone

## APPROVALS / CERTIFICATES

ETA-16/0934 + DoPs

0809-CPR-1252

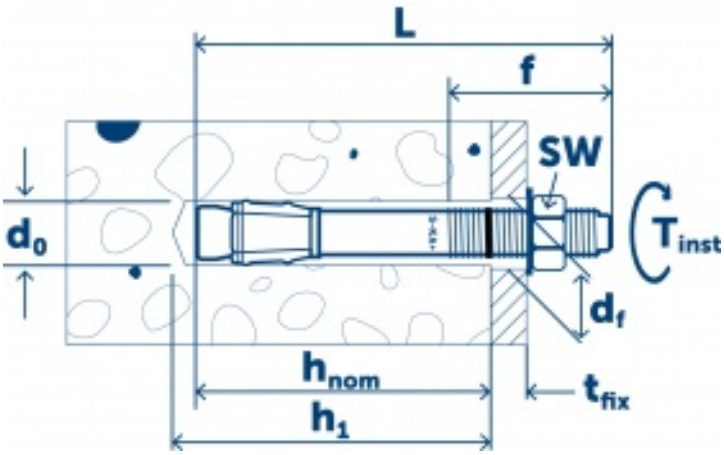
Fire resistance (ETA-16/0934)

Seismic resistance (ETA-16/0934)

# Technical data

## INSTALLATION DETAILS

| | |
|---|---|
| **Size** | M12 |
| **Length (L)** | 148 |
| **Thread (f)** | 98 |
| **Width across flats (SW)** | 19 |
| **Max. fixture thickness ($T_{fix}$ )** | 70/50 |




## INSTALLATION DETAILS

| | |
|---|---|
| **Hole in fixture ($D_f$)** | 14 |
| **Drill hole diameter ($d_0$) ⌀** | 12 |
| **Minimum drill hole depth** | 70/90 |
| **Drill hole depth ($h_1$)** | 70/90 |
| **Nominal setting depth ($H_{nom}$)** | 61/81 |
| **Effective setting depth ($H_{ef}$)** | 50/70 |
| **Installation torque ($T_{inst}$)** | 60 |

## Performance data

| Base material: All | Load type | Embedment depth ($h_{nom}$) | Load direction | Load value |
|---|---|---|---|---|
| Non-cracked concrete C20/25 | $N_{Rec}$ | 61 mm | | 8.3 kN |
| Non-cracked concrete C20/25 | $V_{Rec}$ | 61 mm | | 17.1 kN |
| Non-cracked concrete C20/25 | $N_{Rec}$ | 81 mm | | 11.9 kN |
| Non-cracked concrete C20/25 | $V_{Rec}$ | 81 mm | | 17.1 kN |
| Cracked concrete C20/25 | $N_{Rec}$ | 61 mm | | 5.8 kN |
| Cracked concrete C20/25 | $V_{Rec}$ | 61 mm | | 16.5 kN |
| Cracked concrete C20/25 | $N_{Rec}$ | 81 mm | | 7.6 kN |
| Cracked concrete C20/25 | $V_{Rec}$ | 81 mm | | 17.1 kN |

## Installation

