

Guardian Fasteners for concrete

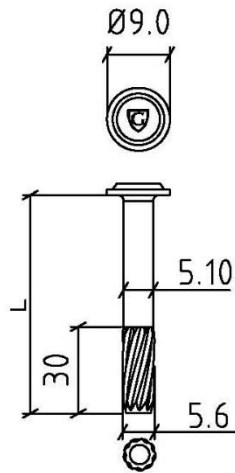


Fig. 21
BN 5.6 Concrete nail

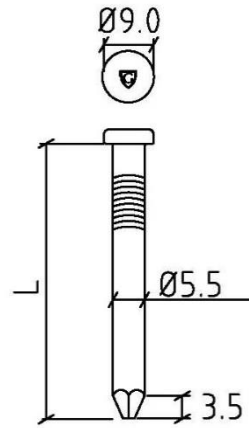


Fig. 22
BNRF 5.5 Stainless concrete nail

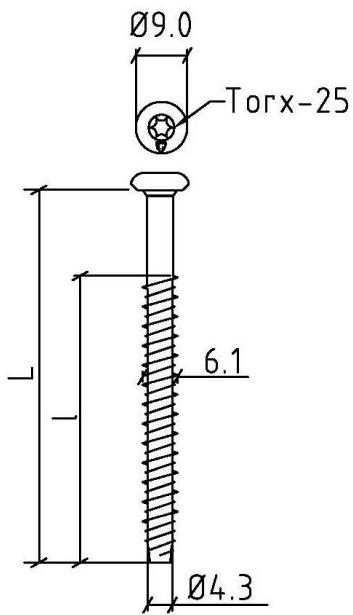


Fig. 23
CS 6.1 Concrete screw (with flat or sharp point)
CS-S 6.1 Stainless Concrete screw

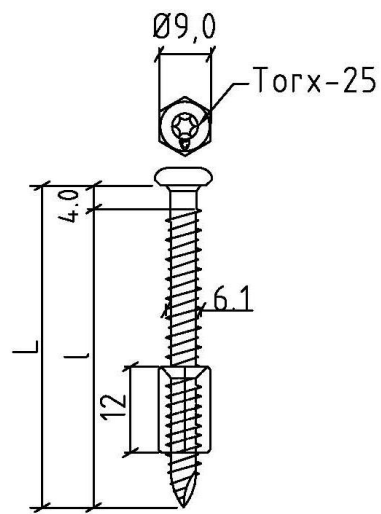


Fig. 24
ACS 6.1 Adjustable concrete screw
(used together with tube washer ASTL versions)

Performance of Guardian Fastening system on different substrates

Characteristic values are calculated from the following formula according to EAD-030351-00-0402 and CEN/TS-17659:

$$R_k: \alpha (X_m - (k \times s))$$

where: R_k = characteristic y values of axial load resistance

α = corr. factor for tested substrate spec. compared with nominal substrate spec.

X_m = mean axial pull-out load for 10 specimens

$k = 1,92$ (according to Table D1 in EN-1990:2002)

s = standard deviation

Table 2: Concrete substrate ¹⁾

Fastener	Substrate	R_k : Characteristic values of axial load resistance (kN)
GUARDIAN CS 6.1 / ACS-6.1	C25-C30	4.28
GUARDIAN B NRF 5.5	C25-C30	1.79
GUARDIAN BN 5.6	C25-C30	1.92
GUARDIAN CP & CPN (Polypropylene)	C25-C30	1.57
GUARDIAN HD 6.1	C25-C30	4.83
GUARDIAN LBS 6.0	C20-C25	2.92
GUARDIAN LBS 6.0	C25-C30	3.26
GUARDIAN CS-S 6.1	C25-C30	2.92
GUARDIAN CS-S 6.1	C32-C40	3.29
GUARDIAN CS-S 6.1	C40-C50	3.69

¹⁾ See clause 2 regarding hole diameter and drill depth

Table 3: Light weight concrete substrate ²⁾

Fastener	Substrate	R_k : Characteristic values of axial load resistance (kN)
GUARDIAN LBS 6.0	Density 600 kg/m ³	2.07
GUARDIAN LBS 8.0	Density 450 kg/m ³	0.93
GUARDIAN LBS 8.0	Density 550 kg/m ³	1.44
GUARDIAN HD 6.1	Density 600 kg/m ³	1.36
GUARDIAN LBS-S 6.0	Density 450 kg/m ³	1.34

²⁾ Autoclaved aerated concrete units according to EN 12602:2016

Table 4: Profiled steel sheets substrate ³⁾