



European Technical Assessment

ETA 12/0495 of 23/08/2022

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:

Eurofins Expert Services Oy

Trade name of the construction product

**Croco-512 Fastener
Croco A Fastener
Croco B Fastener**

Product family to which the construction product belongs

Fasteners for mechanically fastened flexible waterproofing systems

Manufacturer

Vilpe Oy
Kauppatie 9
FI-65610 Mustasaari
Finland

Manufacturing plant

Vilpe Oy
Kauppatie 9
FI-65610 Mustasaari
Finland

This European Technical Assessment contains

7 pages including 1 Annex, which forms an integral part of this assessment.

This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of

EAD 030351-00-0402, Systems of mechanically fastened flexible roof waterproofing sheets

This version replaces

ETA 12/0495 issued 14/07/2020

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Specific parts

1 Technical description of the product

Croco fasteners are composed of coloured polypropylene plastic washers and VILPE® KLA NO-1 and VILPE® KLA NO-3 steel screws, VILPE® TX25 or 6.5 x 150 concrete screws or VILPE® concrete nails depending on the substrate. Steel screws, concrete nails and concrete screws have zinc or Tufcote/Ruspert coating. The dimensions of the fastener and screw or nail are chosen depending on the thickness of the roof insulation. The length of the fastener can vary between 20 – 700 mm. Figures and dimensions of the products are in Annex 1.

The fastening system is introduced to the market separately from other components of roof waterproofing membrane kit, and this ETA covers only performance characteristics of the fastening systems.

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

2.1 Intended use

The products are intended to be used for fastening mechanically fastened flexible roof waterproofing and roof insulation to the load bearing roof substrate. The fasteners may be used for bituminous, rubber and plastic membranes.

2.2 Working life

The provisions made in this European Technical Assessment are based on an assumed intended working life of the mechanical fastenings of 10 years, provided that product is subject to appropriate installation and maintenance.

The indication given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by the Technical Assessment Body issuing this ETA, but is regarded only as a means for expressing the expected economically reasonable working life of the product.

The completed building (the works) shall comply with the building regulations (regulations on the works) applicable in the Member States in which the building is to be constructed. The procedures foreseen in the Member State for demonstrating compliance with the building regulations shall also be followed by the entity held responsible for this act. This ETA does not amend this process in any way.

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

Table 1. Basic requirements for construction works and essential characteristics

Basic requirement and essential characteristics	Assessment of characteristic	
BWR 2. Safety in case of fire		
Reaction to fire	Not assessed	
BWR 4. Safety and accessibility in use		
Fastener axial load	Croco 512 Fastener	
	<ul style="list-style-type: none"> Aerated concrete, 500/4,0 Installation depth 50 mm, drill 12 mm 	0,61 kN
	Croco A Fastener Croco B Fastener	
	<ul style="list-style-type: none"> Steel substrate, 0,72 mm, R_m 495 N/mm² VILPE® KLA NO-1 steel screw 	1,68 kN
	<ul style="list-style-type: none"> Steel substrate 1,25 mm R_m 505 N/mm² VILPE® KLA NO-3 steel screw 	1,55 kN
	<ul style="list-style-type: none"> Plywood substrate, 18 mm Density 724 kg/m³ VILPE® KLA NO-1 steel screw Installation depth 15 mm to substrate 	1,59 kN
	<ul style="list-style-type: none"> Concrete substrate, C25/30 VILPE® Concrete nail Installation depth 20 mm to substrate, drill 5 mm 	1,20 kN
<ul style="list-style-type: none"> Concrete substrate, C25/30 VILPE® Concrete screw TX25 Installation depth 20 mm to substrate, drill 5 mm 	1,45 kN	
Resistance to fastener unwinding	Not assessed	
Mechanical resistance/brittleness of plastic fastener	Drop height 1,7 m	
Resistance to corrosion of metallic fasteners	Meets the requirements for 15 cycles (<15 % surface corrosion)	
Mechanical resistance after heat ageing of plastic fasteners	Drop height 1,7 m	

* Values counted using $\alpha=1$, $k= 1,92$ (acc. Table D1 in EN 1990-2002) and 10 test results and the formula

$$X_m = \alpha \cdot (X_m - k \cdot s)$$

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

According to the Decision 98/143/EC of the European Commission, the system of assessment and verification of constancy of performance is System 2+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Eurofins Expert Services Oy.

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by Eurofins Expert Services Oy

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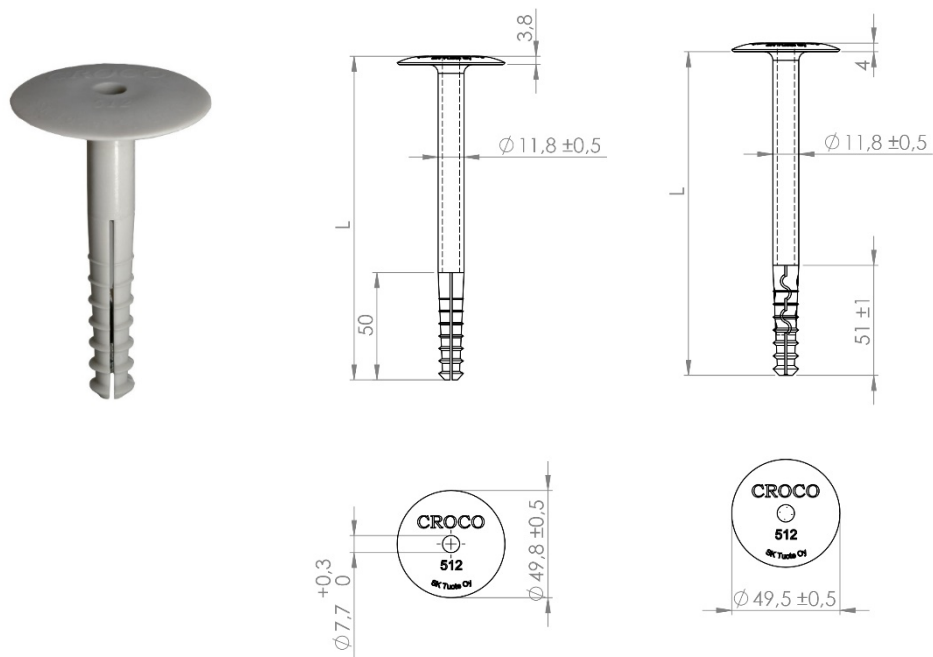


Figure 1 Croco 512 washer

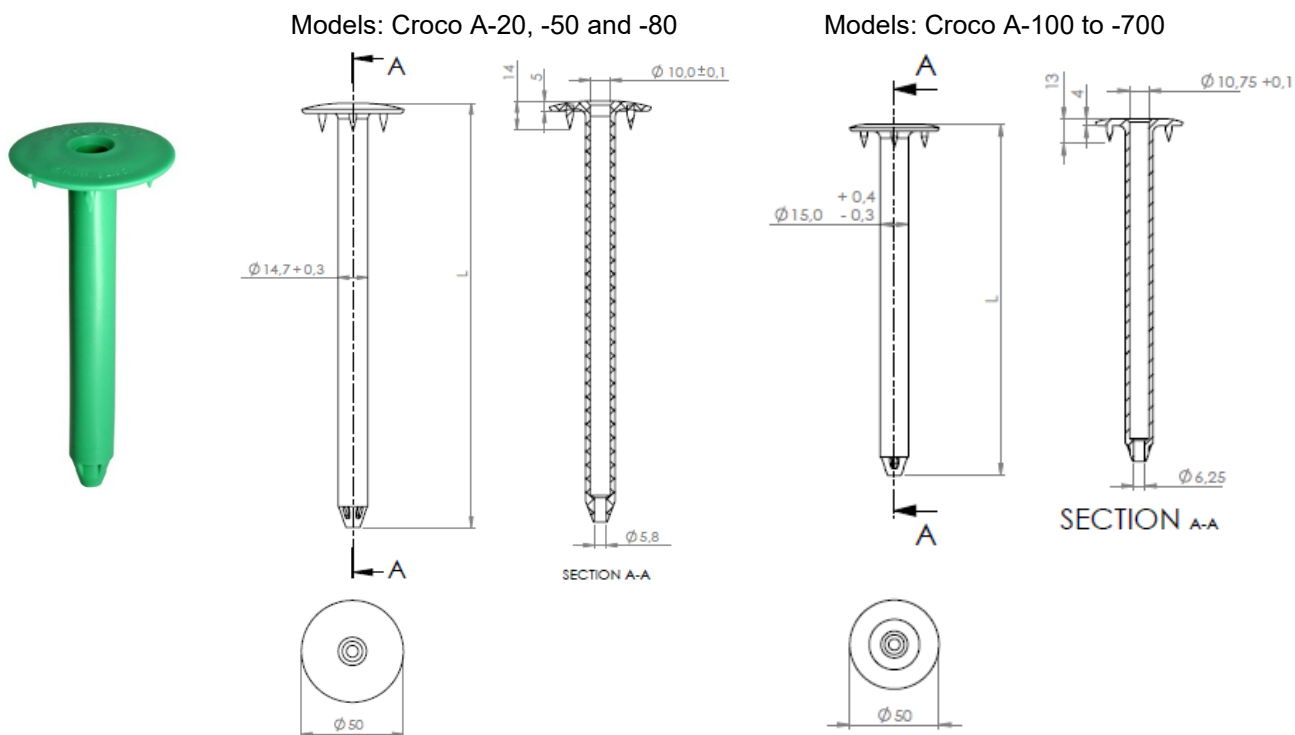


Figure 2. Croco A washer

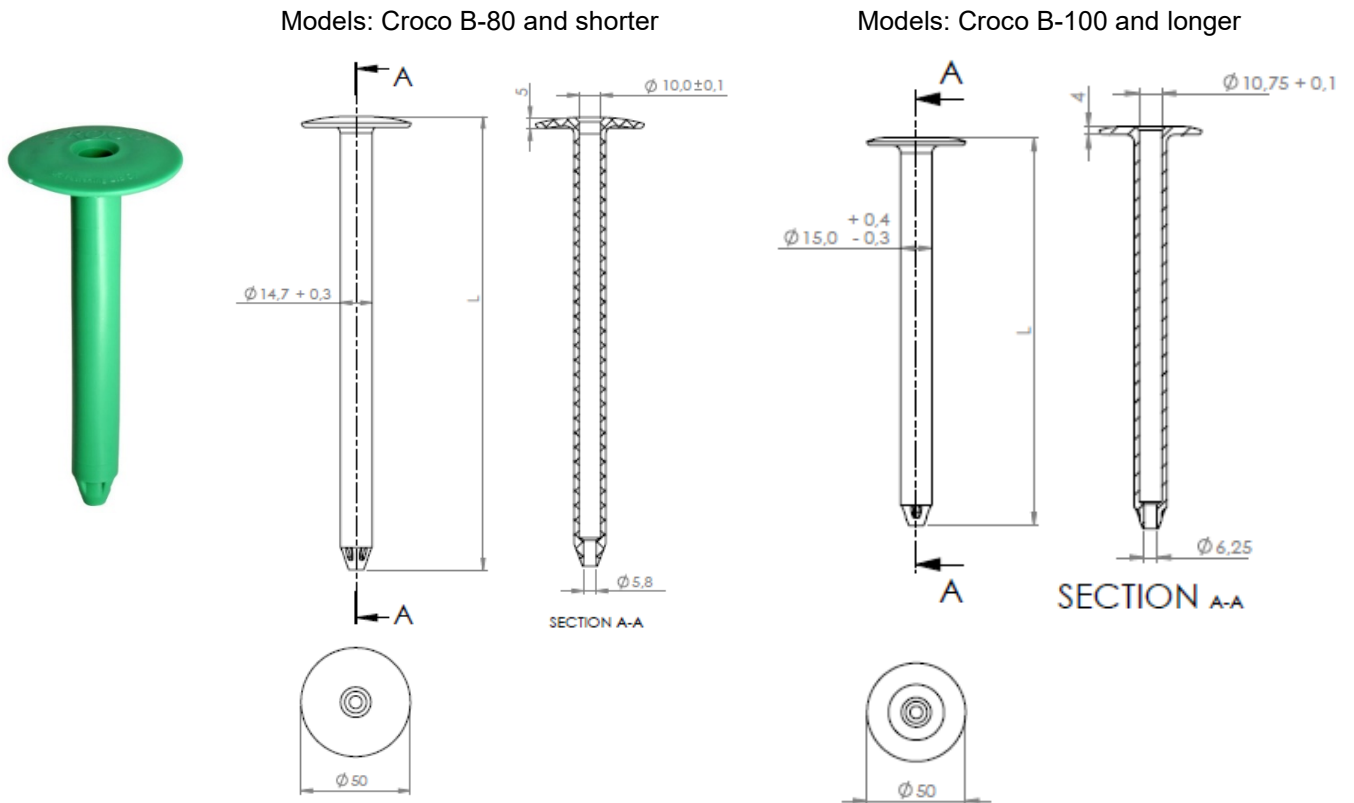


Figure 3. Croco B washer

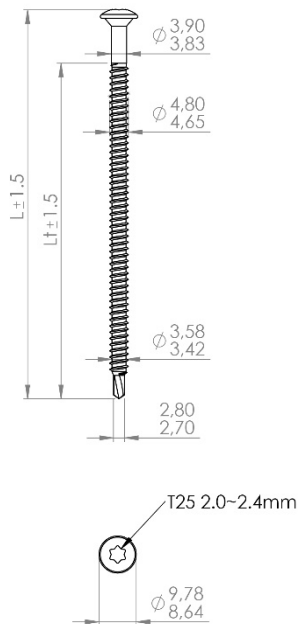


Figure 4. VILPE® KLA NO-1 screw

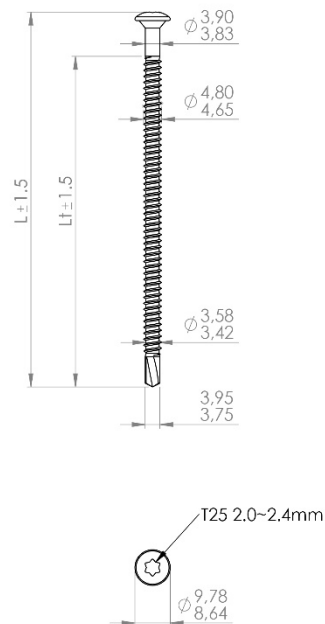


Figure 5. VILPE® KLA NO-3 screw

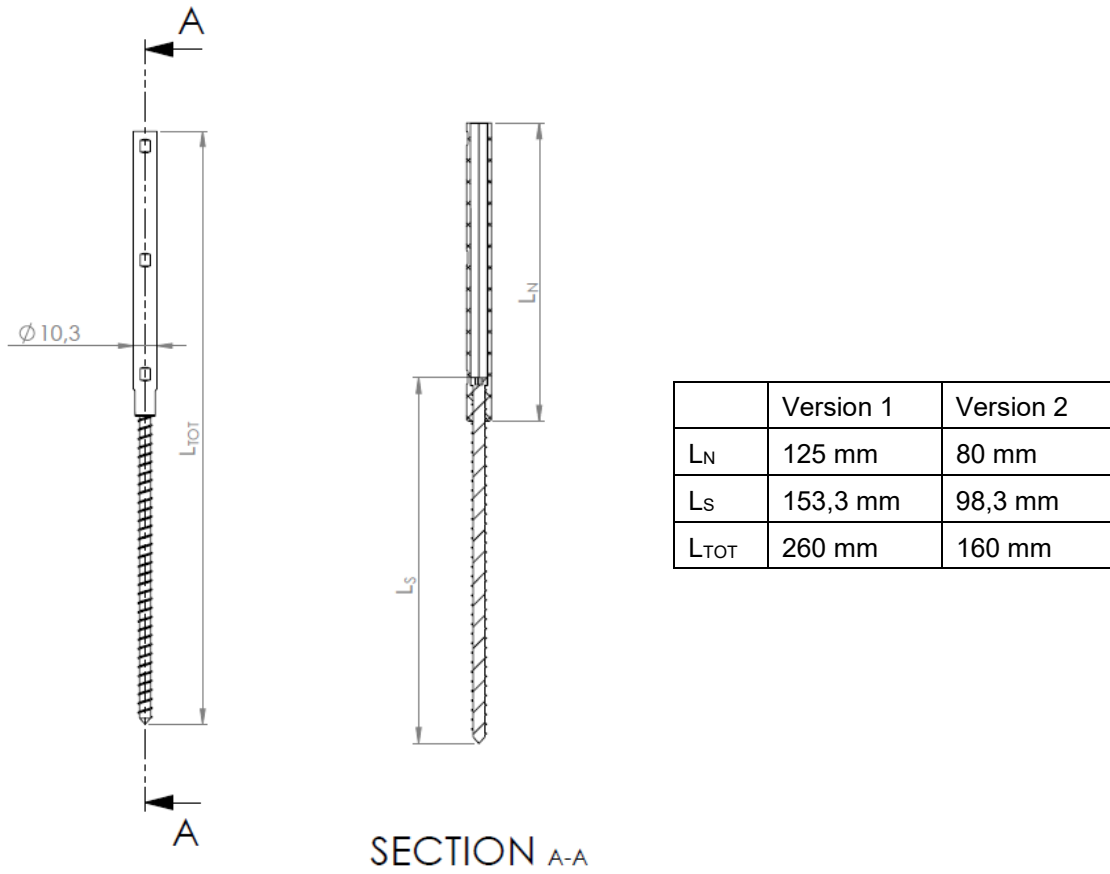


Figure 6. Croco adjustment nut

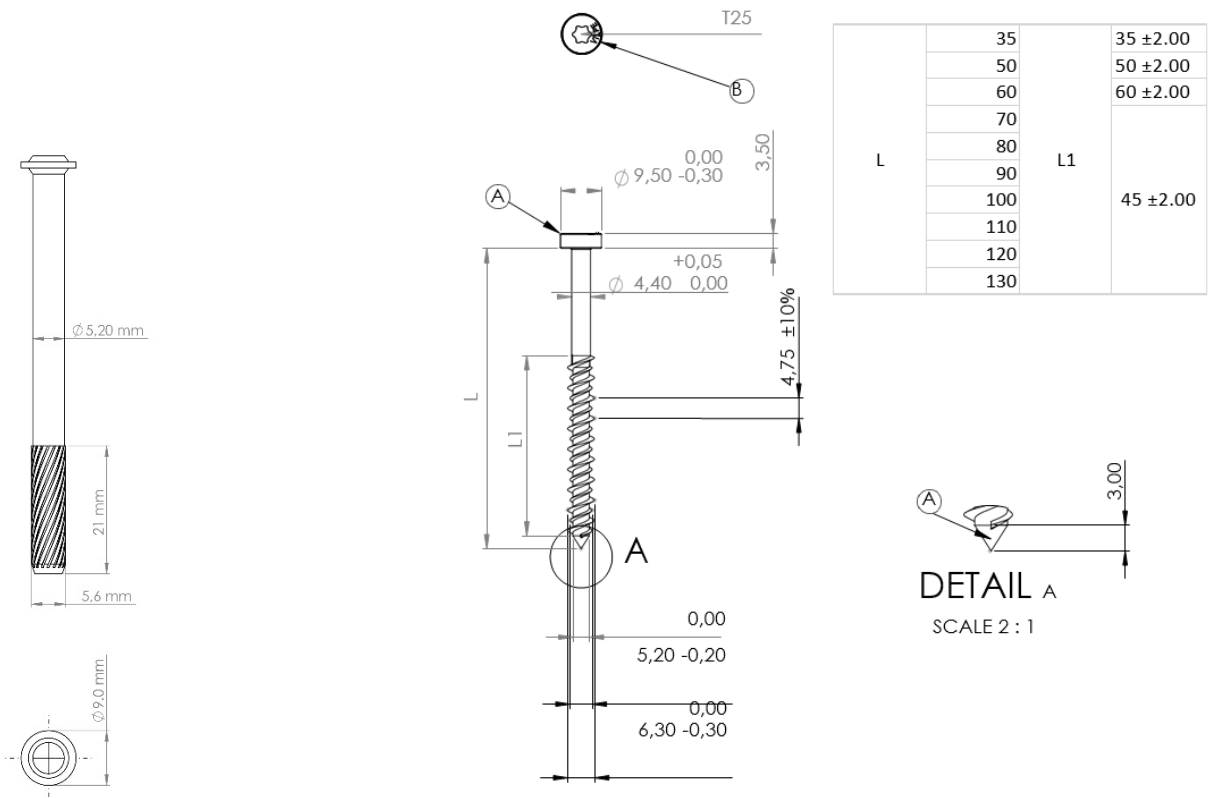


Figure 7. VILPE® Concrete nail

Figure 8. VILPE® Concrete screw TX25