



Designated according to The Construction Products (Amendment etc.) (EU Exit) Regulations 2020

UK Technical Assessment	UKTA-0836-22/6338 of 22/11/2022
Technical Assessment Body issuing the UK Technical Assessment:	British Board of Agrément
Trade name of the construction product:	KOELNER Flat Roof Fasteners
Product family to which the construction product belongs:	Area Code 03, Fasteners for flexible roof waterproofing membrane systems
Manufacturer:	RAWLPLUG S.A. Kwidzynska 6 51-416 WROCLAW POLEN
Manufacturing plant(s):	RAWLPLUG S.A. Kwidzynska 6 51-416 WROCLAW POLEN
This UK Technical Assessment contains:	59 pages including 54 annexes which form an integral part of this assessment
This UK Technical Assessment is issued in accordance with The Construction Products (Amendment etc.) (EU Exit) Regulations 2020 on the basis of:	UKAD 030351-00-0402 Systems of Mechanically Fastened Flexible Roof Waterproofing Sheets

Communication of this UK Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may be made with the written consent of the British Board of Agrément. Any partial reproduction must be identified as such.

1 Technical description of the product

KOELNER Flat Roof Fasteners are mechanical fastener products for construction.

The fasteners comprise a screw manufactured of galvanic coated carbon steel and a washer with or without integrated sleeve. The washers without integrated sleeve are manufactured from galvanic coated carbon steel whereas the washers with integrated sleeve are manufactured from plastic materials (polyamide or polypropylene).

The fasteners shall correspond to the information given in Annexes 1 to 54 of this ETA.

The material properties, dimensions and tolerances not indicated in Annexes 1 to 54 shall correspond to the information laid down in the technical information 1 to this UK technical assessment.

2 Specification of the intended use(s) in accordance with the applicable UK Assessment Document (hereinafter UKAD)

The fasteners are intended to be used for the fastening of flexible roof waterproofing membranes according to UKAD 030351-00-0402. The possible substructures are steel decks, timber or concrete.

The performances given in Section 3 are only valid if the fasteners are used in compliance with the specifications and conditions given in the Annexes to this ETA and if the installation is carried out according to the manufacturer's assembly instructions.

The verifications and assessment methods on which this UK Technical Assessment is based lead to the assumption of a working life of the fasteners of at least 10 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

In order to use the fasteners for systems of mechanically fastened flexible roof waterproofing membranes according to UKAD 030351-00-0402 a separate UKTA is necessary for the entire roof waterproofing system. The system UKTA covers the wind uplift resistance of the entire system as well as the product characteristics of the components of the system.

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

3.1 Mechanical resistance and stability (BWR 1)

Not relevant.

3.2 Safety in case of fire (BWR 2)

Not relevant.

3.3 Health, hygiene and the environment (BWR 3)

Not relevant.

3.4 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic tensile loading	See Annex 54
Resistance to unwinding	pass
Resistance to corrosion of metallic fasteners	pass; ≤ 15 % surface corrosion
Impact resistance and brittleness of plastic fasteners (before and after heat ageing)	pass; drop height > 1.0 m
Requirements for results of Charpy tests for plastic materials (before and after heat ageing)	pass; not any significant decline compared to the results before heat ageing

The characteristic values of the axial load resistance of the fasteners are given in Annex 54. The values were determined by axial loading tests according to UKAD 030351-00-0402.

The fasteners are deemed to satisfy the requirements of UKAD 030351-00-0402 concerning unwinding. This was evaluated on the basis of the existing field experience of the manufacturer.

The durability requirements of UKAD 030351-00-0402 (resistance to corrosion of metallic fasteners, impact resistance and brittleness of plastic fasteners before and after heat ageing, requirements for results of Charpy tests for plastic materials before and after heat ageing) are satisfied for the galvanic coated carbon steel, polyamide or polypropylene components of the fasteners.

All coated carbon steel components resisted to 15 cycles of the test procedure described in UKAD 030351-00-0402 (Kesternich test) and did not show more than 15 % surface corrosion.

The test results of the tests to check the impact resistance and brittleness of the plastic components showed a drop height of more than 1.0 m before and after heat ageing of these components. Furthermore the results of the corresponding Charpy tests after heat ageing did not show any significant decline compared to the results before heat ageing.

3.5 Protection against noise (BWR 5)

Not relevant.

3.6 Energy economy and heat retention (BWR 6)

Not relevant.

3.7 Sustainable use of natural resources (BWR 7)

No performance assessed.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied

4.1 System of assessment and verification of constancy of performance

According to UKAD No. 030351-00-0402 and Annex V of the Construction Products Regulation (Regulation (EU) 305/2011 as brought into UK law and amended, the system of assessment and verification of constancy of performance (AVCP) 2+ applies.

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with the British Board of Agrément and made available to the UK Approved Bodies involved in the conformity attestation process.

5.1 UKCA marking for the product/ system must contain the following information:

- Identification number of the Approved Body
- Name/address of the manufacturer of the product/ system
- Marking with intention of clarification of intended use
- Date of marking
- Number of certificate of constancy of performance
- UKTA number.

On behalf of the British Board of Agrément



Date of Issue: 22 November 2022

Hardy Giesler
Chief Executive Officer



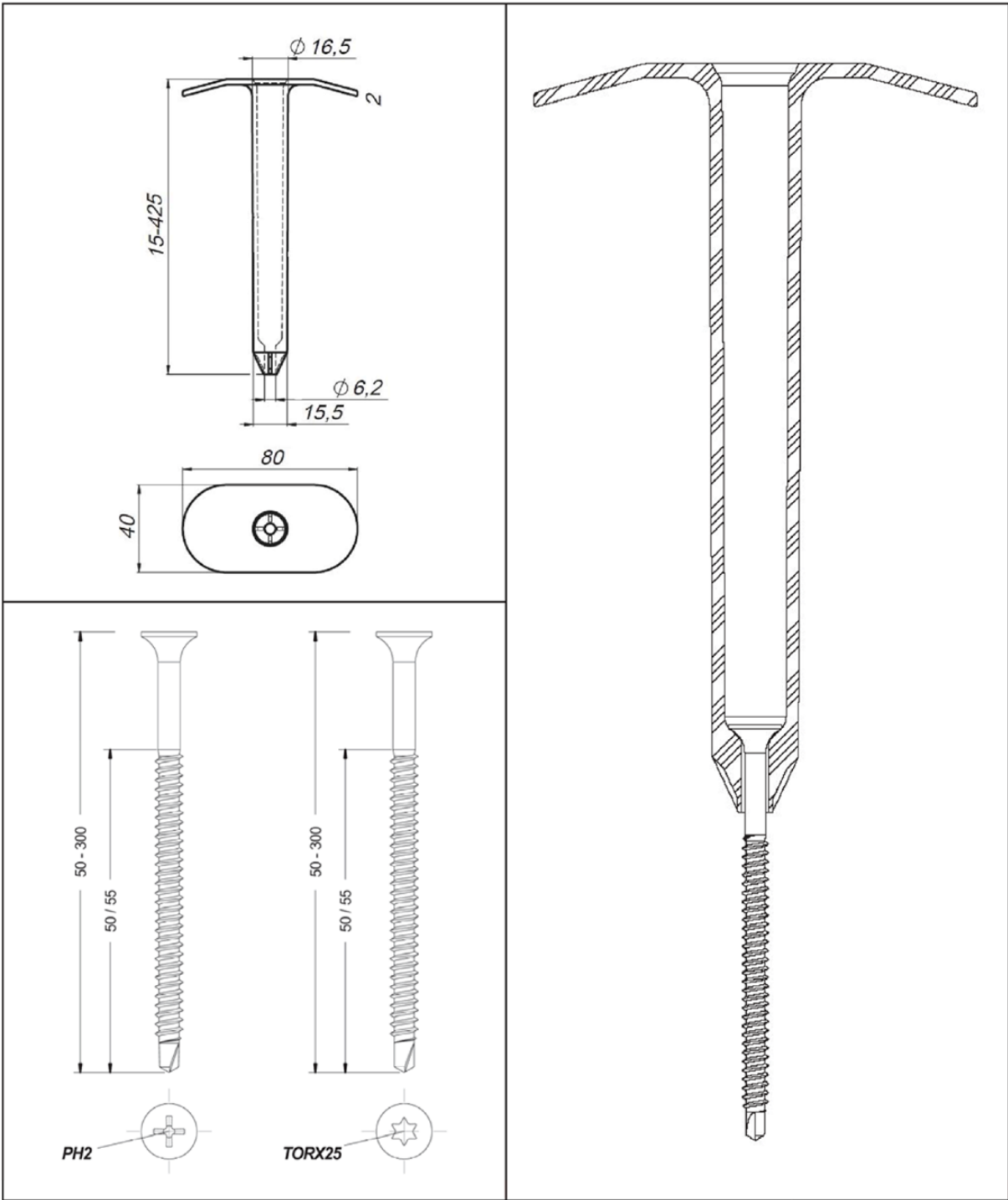
British Board of Agrément,
1st Floor Building 3
Hatters Lane
Croxley Park
Watford
WD18 8YG

This annex applies to the product described in the main body of the UK Technical Assessment.

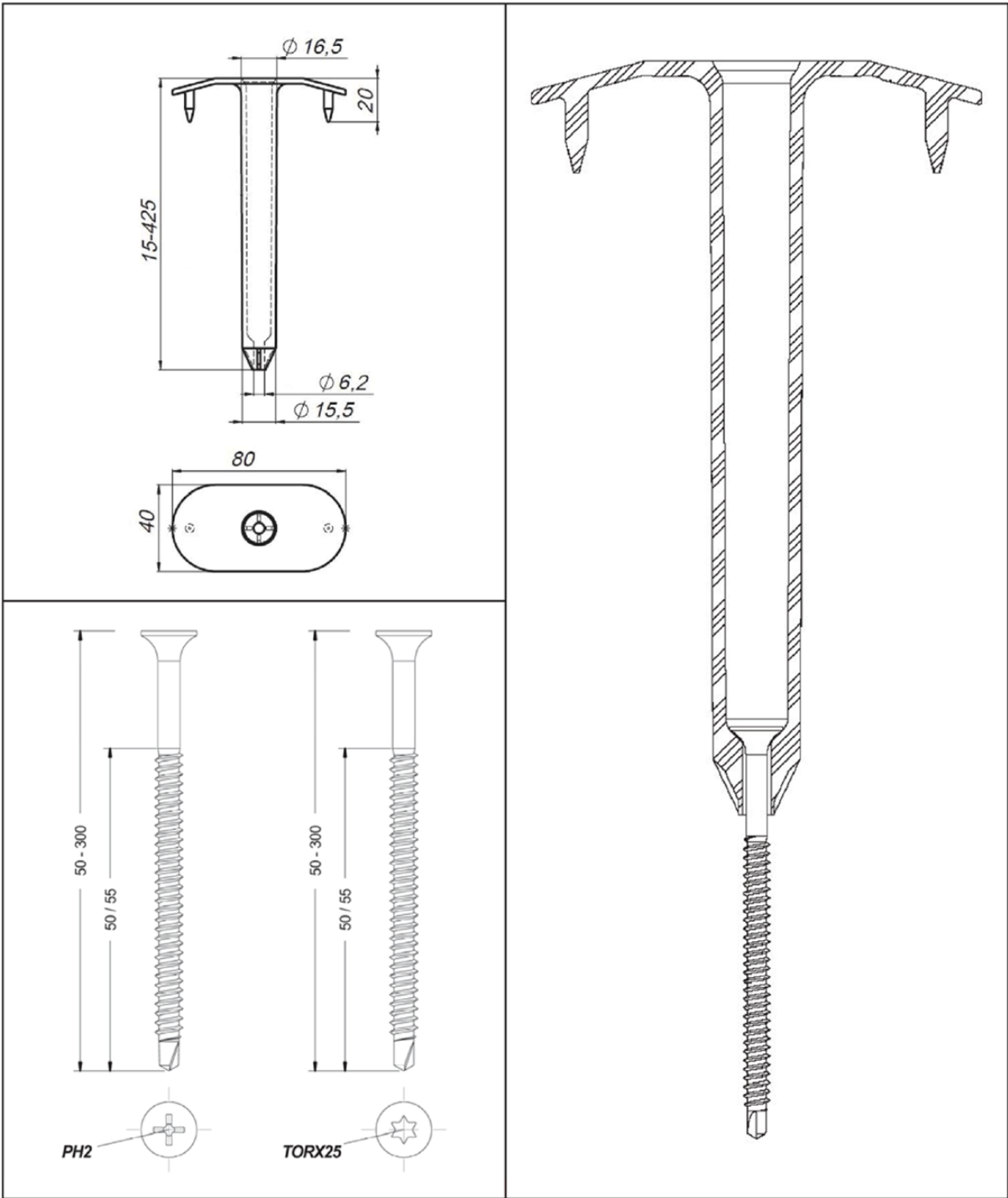
<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 1</p>
<p>Combination 1 Mount: GOK Fastener: WX (PH2- or Torx25-Drive)</p>		

<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 2</p>
<p>Combination 2 Mount: GOK-PLUS Fastener: WX (PH2- or Torx25-Drive)</p>		

	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 3</p> <p>Mount: GOK75 Fastener: WX (PH2- or Torx25-Drive)</p>
<p>Annex 3</p>	



KOELNER Flat Roof Fasteners		Annex 4
Combination 4		
Mount:	GOW	
Fastener:	WX (PH2- or Torx25-Drive)	



KOELNER Flat Roof Fasteners

Combination 5

Mount: GOW-PLUS
 Fastener: WX (PH2- or Torx25-Drive)

Annex 5

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 6 Mount: POW-05-AlZn Fastener: WX (PH2- or Torx25-Drive)</p>	
<p>Annex 6</p>	

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 7</p> <p>Mount: POW-07-AlZn</p> <p>Fastener: WX (PH2- or Torx25-Drive)</p>		<p>Annex 7</p>

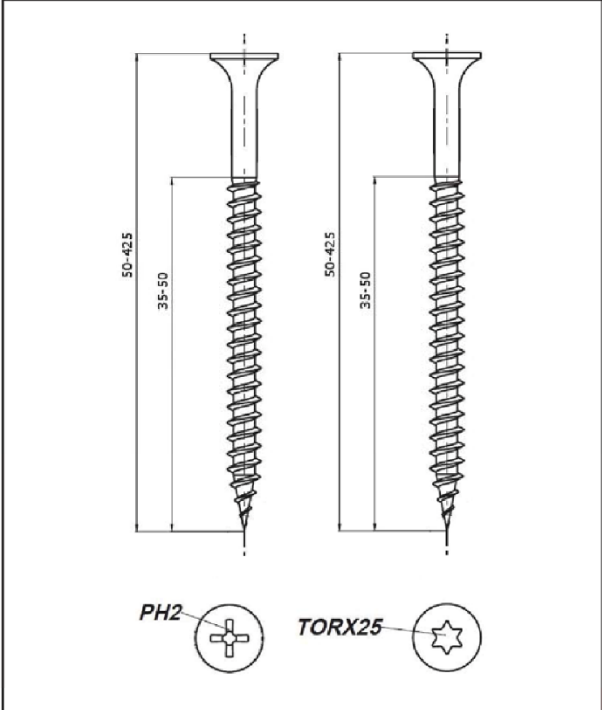
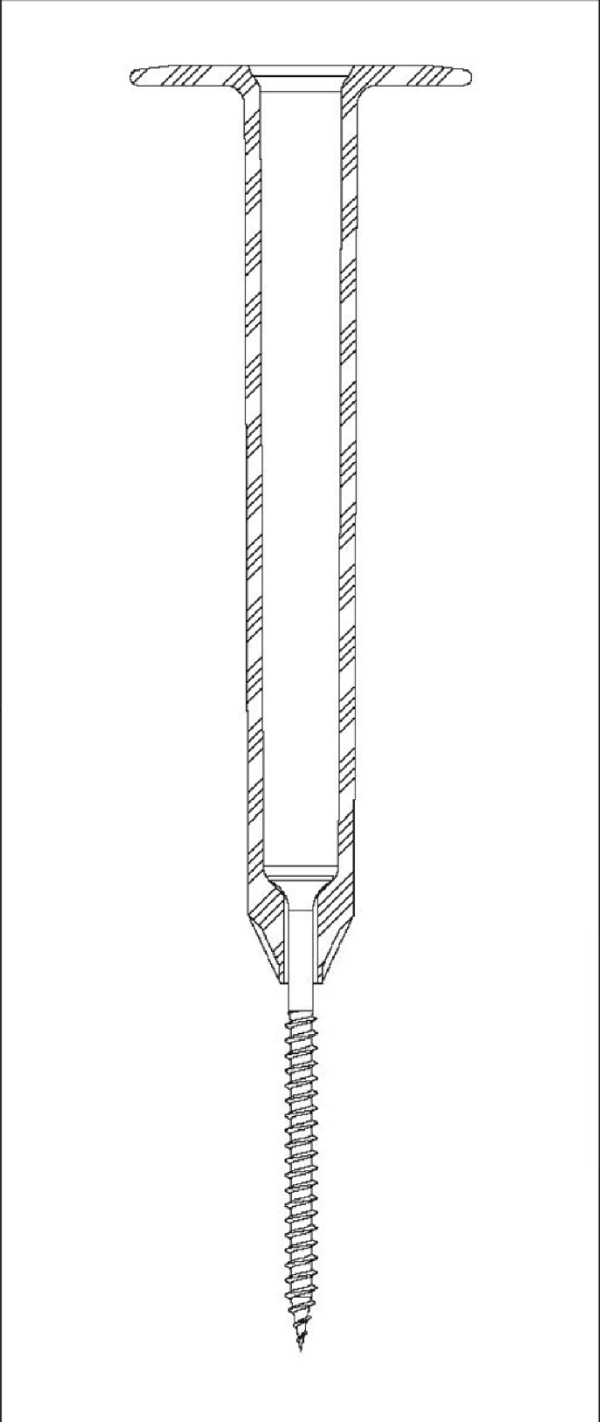
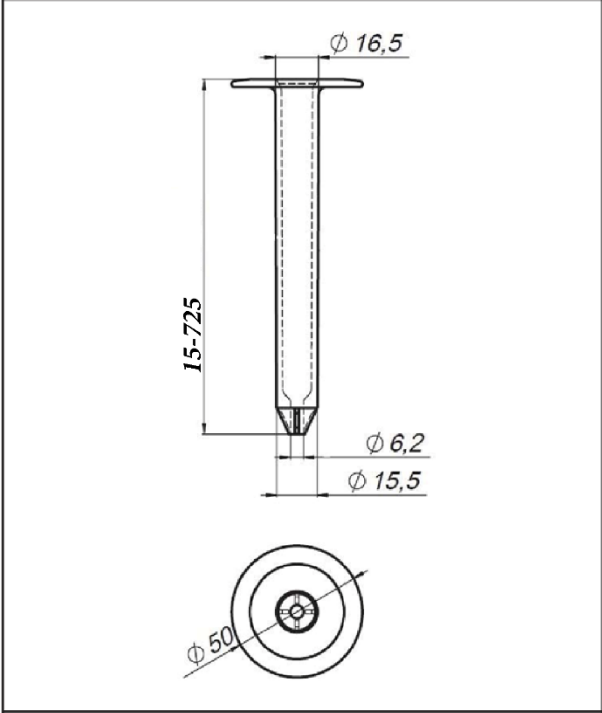
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 8</p> <p>Mount: POK-041-AlZn Fastener: WX (PH2- or Torx25-Drive)</p>		<p>Annex 8</p>

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 9 Mount: POW-05-AlZn Fastener: WB</p>	
<p>Annex 9</p>	

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 10 Mount: POW-07-AlZn Fastener: WB</p>	
<p style="text-align: right;">Annex 10</p>	

<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 11</p>
<p>Combination 11 Mount: POW-09-AlZn Fastener: WB</p>		

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 12</p> <p>Mount: POK-041-AlZn</p> <p>Fastener: WB</p>	<p>Annex 12</p>

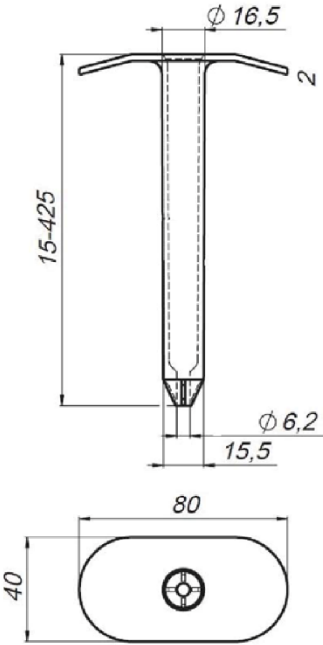
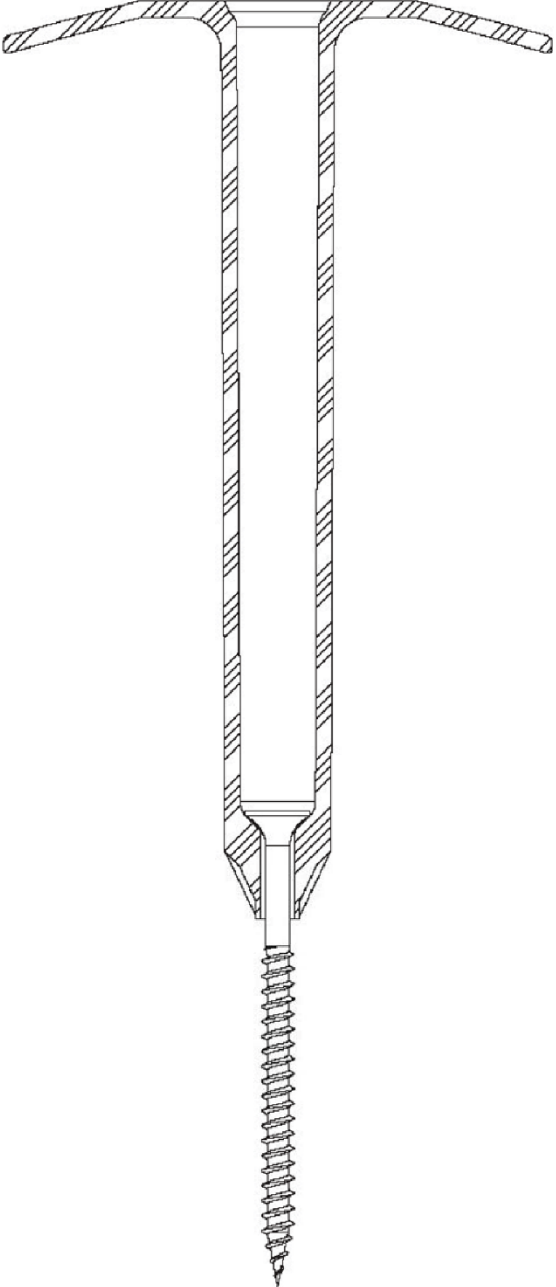
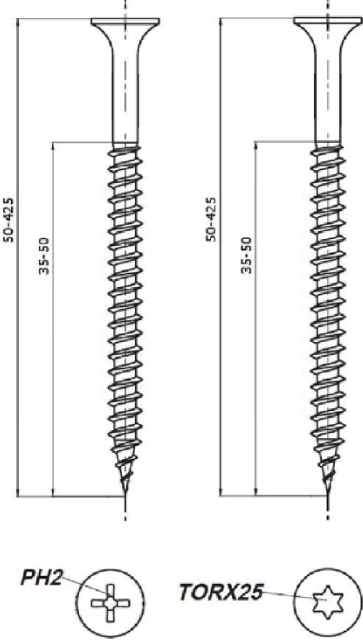


KOELNER Flat Roof Fasteners	
Combination 13	
Mount: GOK	
Fastener: WO (PH2- or Torx25-Drive)	

Annex 13

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 14</p> <p>Mount: GOK-PLUS</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>		<p>Annex 14</p>

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 15</p> <p>Mount: GOK75</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>		<p>Annex 15</p>

	
	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 16</p> <p>Mount: GOW</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>

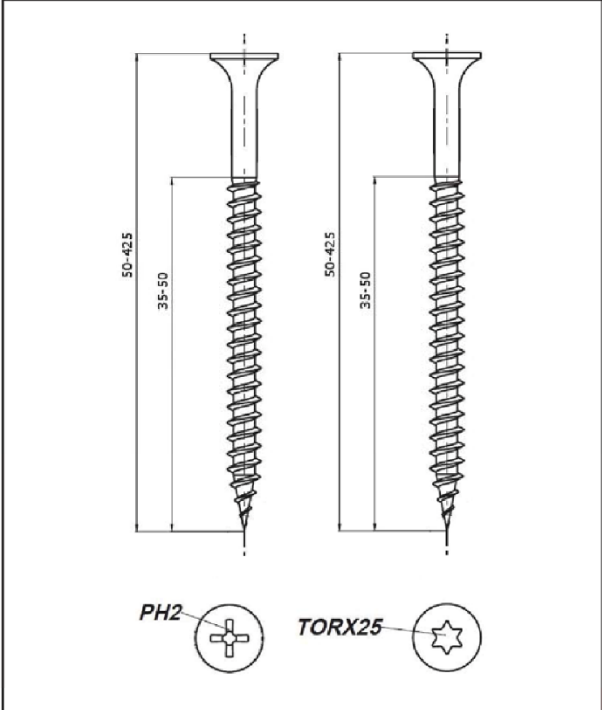
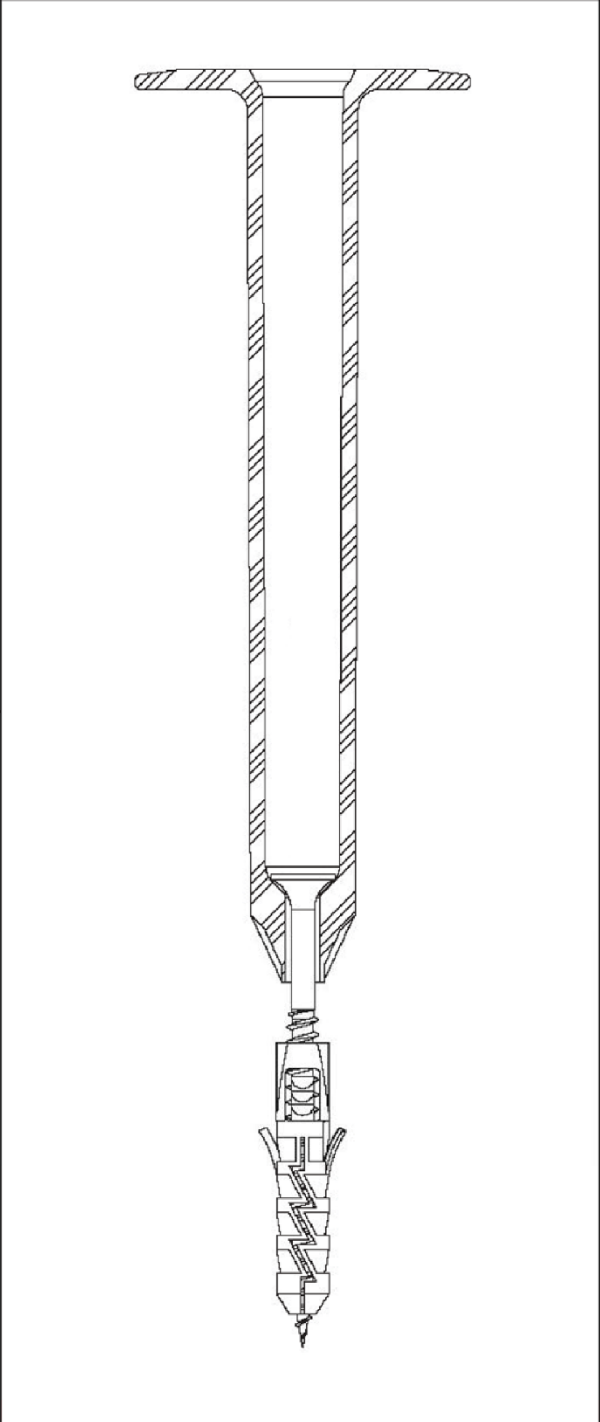
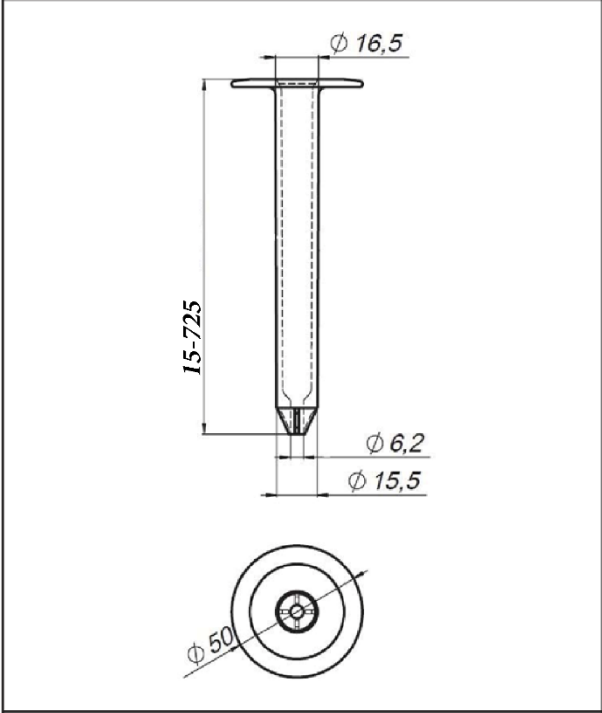
Annex 16

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 17</p> <p>Mount: GOW-PLUS</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>		<p>Annex 17</p>

<p>PH2 TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 18</p> <p>Mount: POW-05-AlZn</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>		<p>Annex 18</p>

<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 19</p>
<p>Combination 19 Mount: POW-07-AlZn Fastener: WO (PH2- or Torx25-Drive)</p>		

<p>PH2 TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 20</p> <p>Mount: POK-041-AlZn</p> <p>Fastener: WO (PH2- or Torx25-Drive)</p>		<p>Annex 20</p>



KOELNER Flat Roof Fasteners

Combination 21

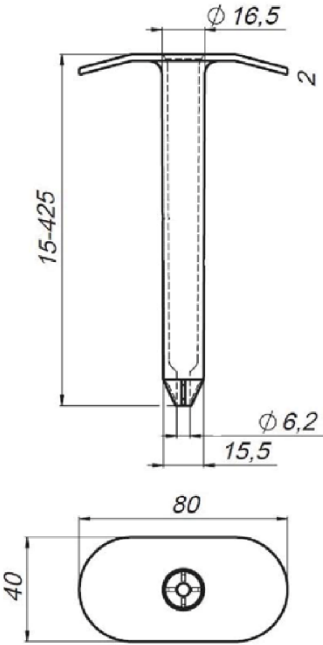
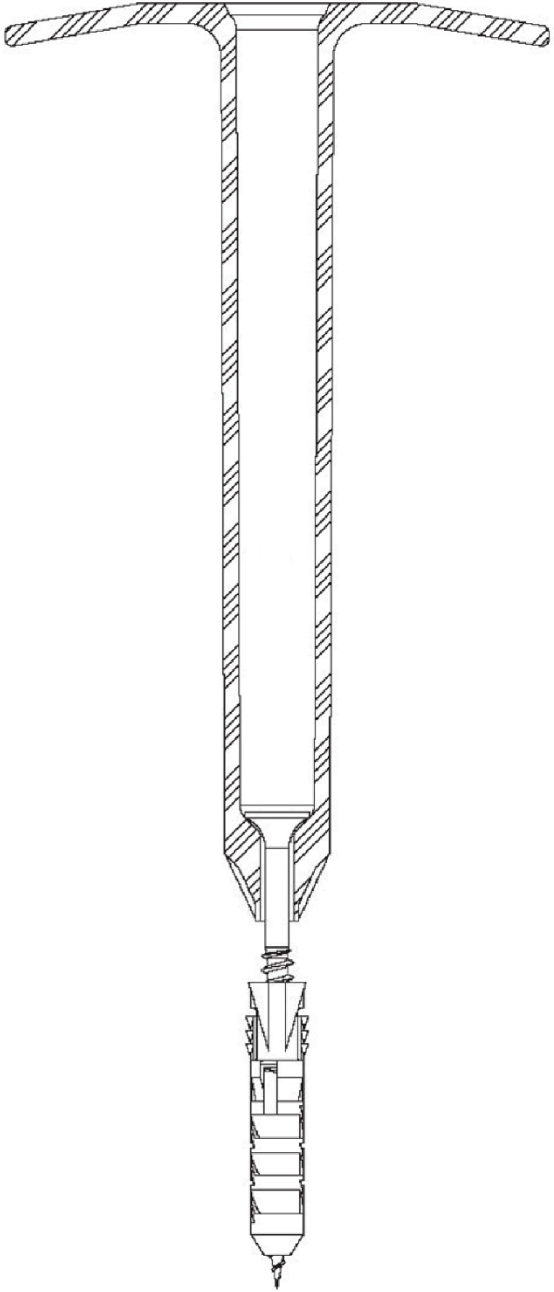
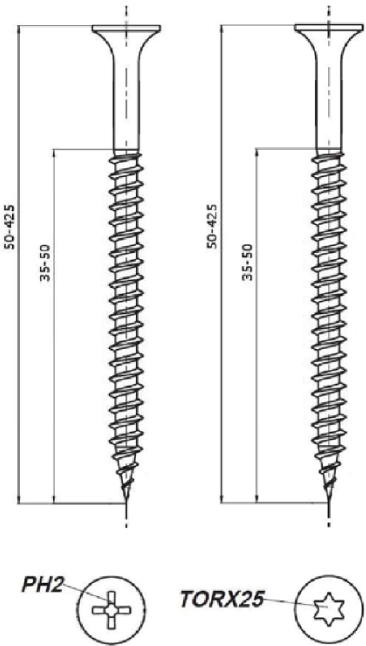
Mount: GOK

Fastener: WO (PH2- or Torx25-Drive) with K08

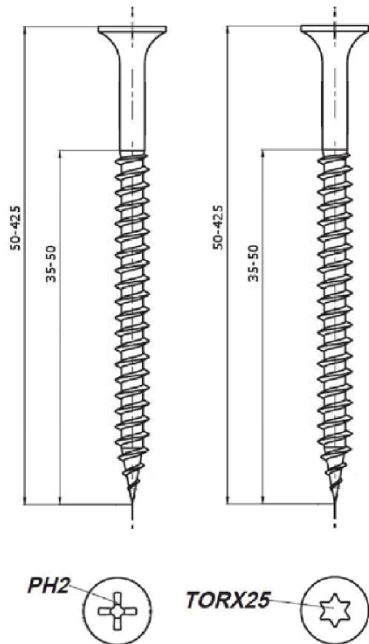
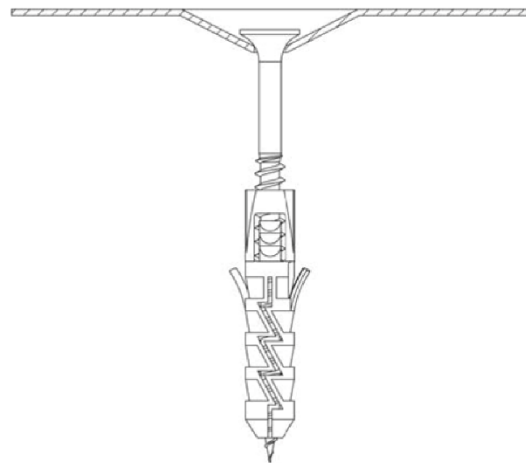
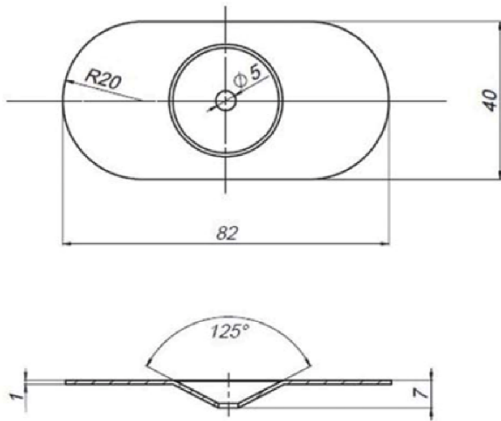
Annex 21

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 22</p> <p>Mount: GOK-PLUS</p> <p>Fastener: WO (PH2- or Torx25-Drive) with K08</p>		<p>Annex 22</p>

	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 23</p> <p>Mount: GOK75</p> <p>Fastener: WO (PH2- or Torx25-Drive) with K08</p>

		
		
<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 24</p>
<p>Combination 24 Mount: GOW Fastener: WO (PH2- or Torx25-Drive) with K08</p>		

	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 25</p> <p>Mount: GOW-PLUS</p> <p>Fastener: WO (PH2- or Torx25-Drive) with K08</p>
<p style="text-align: right;">Annex 25</p>	



KOELNER Flat Roof Fasteners

Combination 26

Mount: POW-05-AlZn
 Fastener: WO (PH2- or Torx25-Drive) with K08

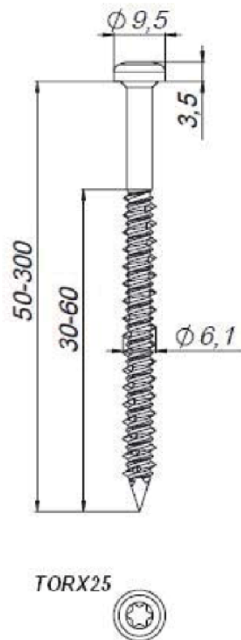
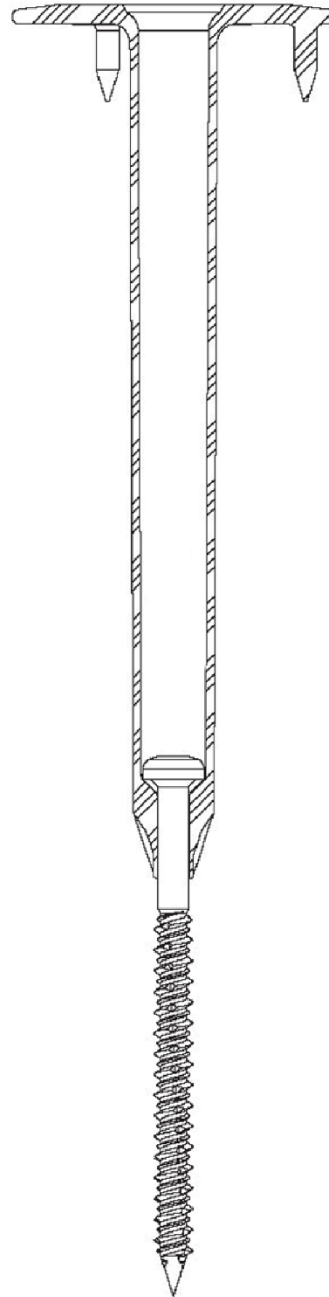
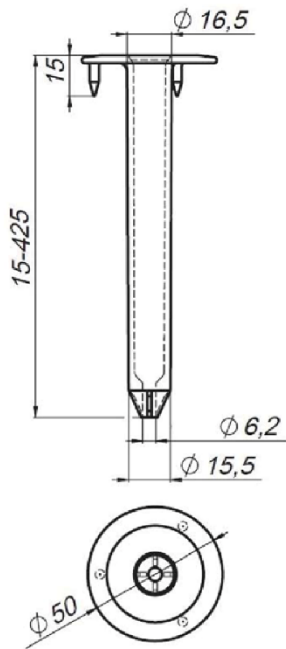
Annex 26

	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 27</p> <p>Mount: POW-07-AlZn Fastener: WO (PH2- or Torx25-Drive) with K08</p>

Annex 27

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 28</p> <p>Mount: POK-041-AlZn Fastener: WO (PH2- or Torx25-Drive) with K08</p>		<p>Annex 28</p>

<p>TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 29</p>
<p>Combination 29 Mount: GOK Fastener: WBT</p>		



KOELNER Flat Roof Fasteners

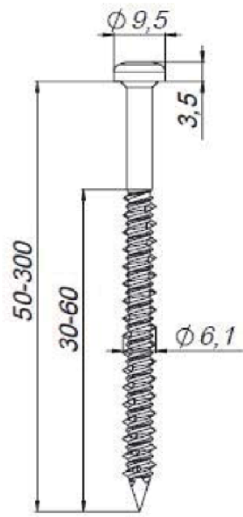
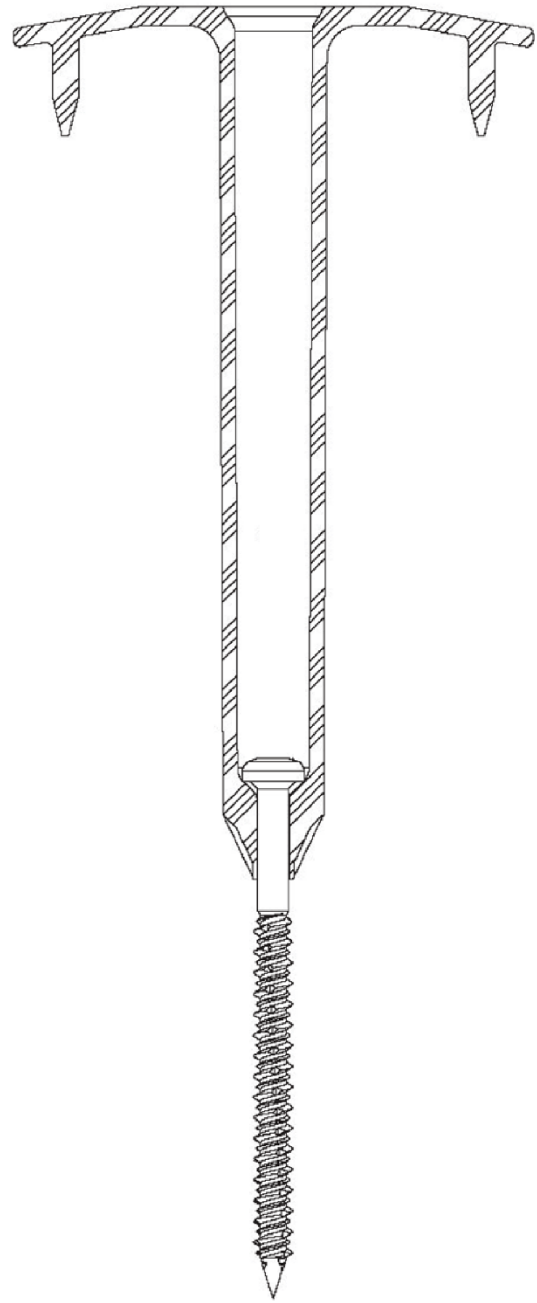
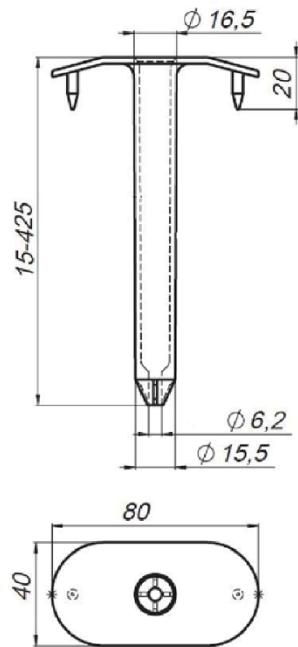
Combination 30

Mount: GOK-PLUS
Fastener: WBT

Annex 30

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 31 Mount: GOK75 Fastener: WBT</p>	
<p>Annex 31</p>	

<p>TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 32</p> <p>Mount: GOW</p> <p>Fastener: WBT</p>		<p>Annex 32</p>

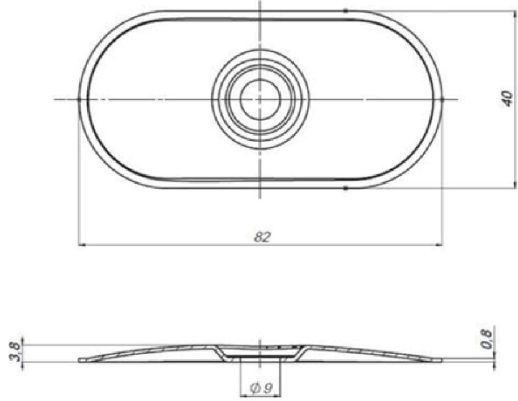
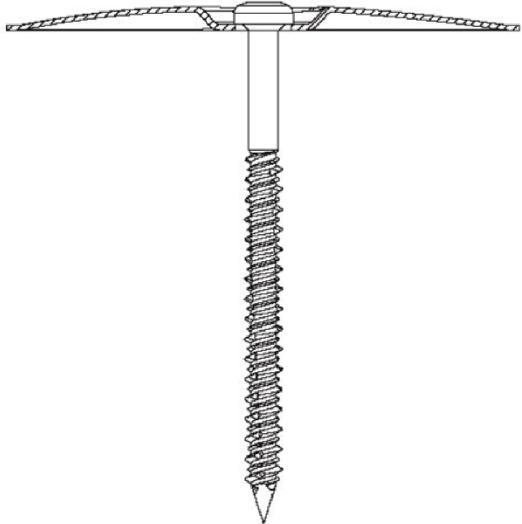
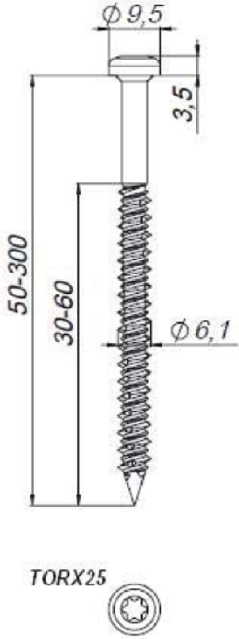


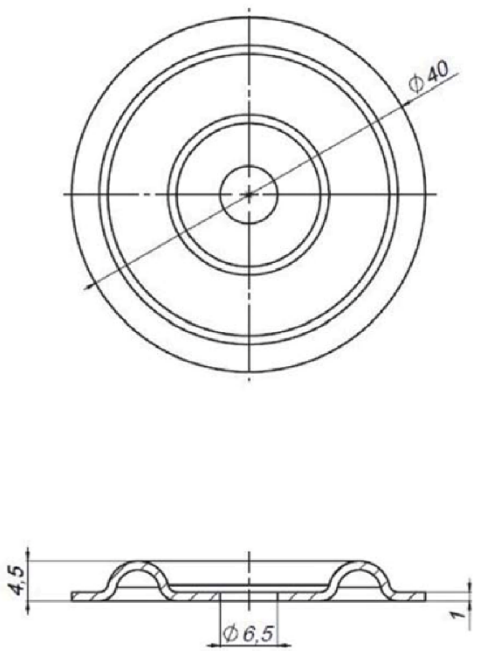
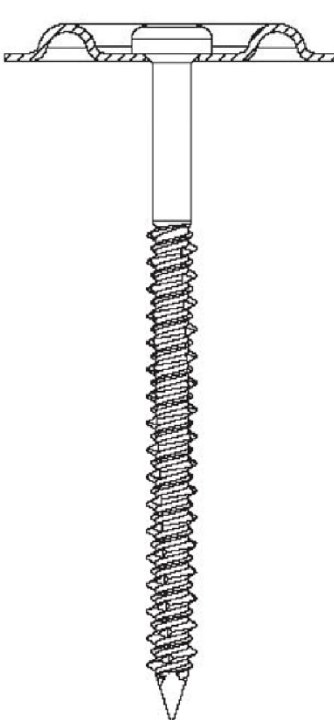
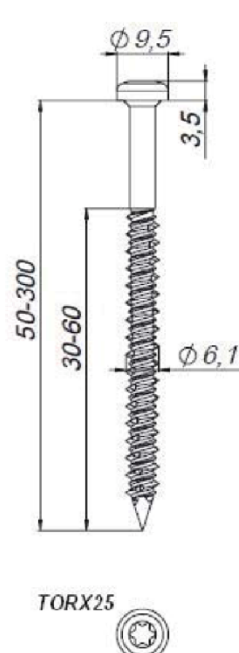
KOELNER Flat Roof Fasteners

Combination 33
 Mount: GOW-PLUS
 Fastener: WBT

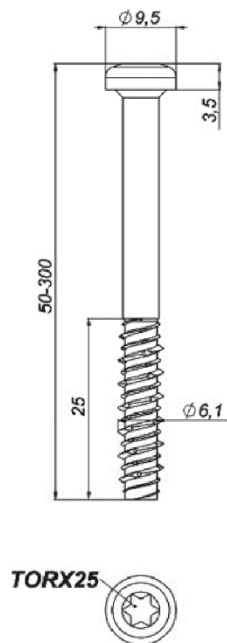
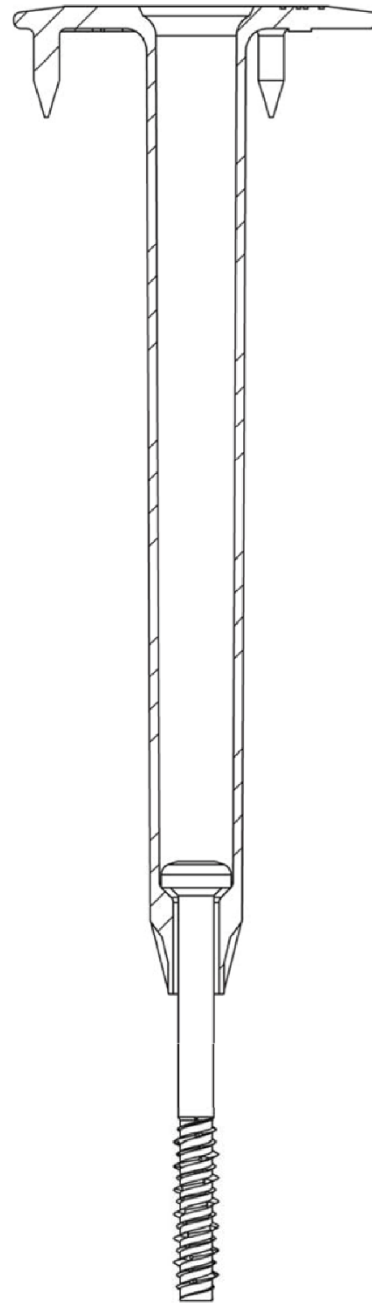
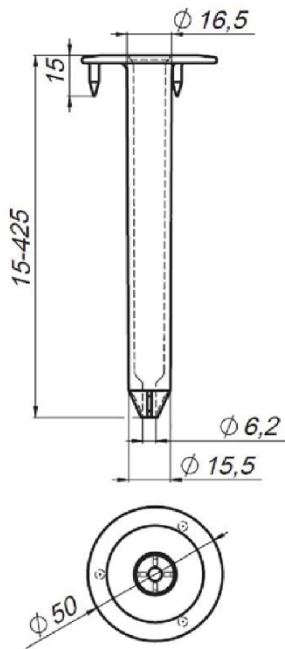
Annex 33

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 34</p> <p>Mount: POW-07-AlZn</p> <p>Fastener: WBT</p>	
<p>Annex 34</p>	

	
 <p>TORX25</p>	
<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 35</p> <p>Mount: POW-09-AlZn</p> <p>Fastener: WBT</p>	<p>Annex 35</p>

		
 <p>TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 36</p> <p>Mount: POK-041-AlZn</p> <p>Fastener: WBT</p>		<p>Annex 36</p>

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 37</p> <p>Mount: GOK Fastener: WBT-A</p>		<p>Annex 37</p>



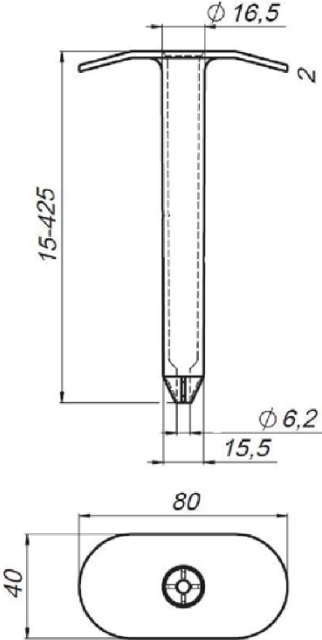
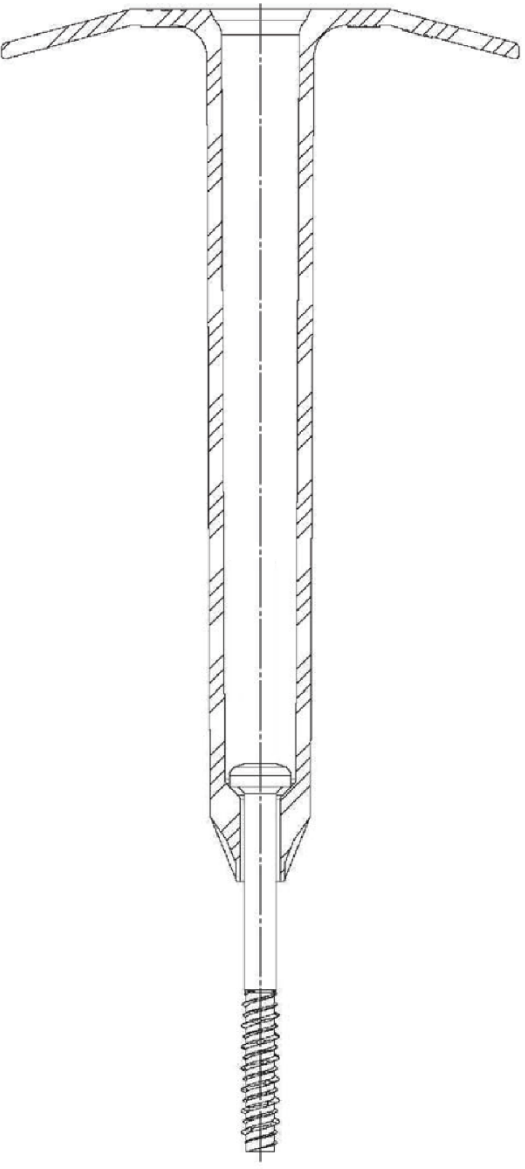
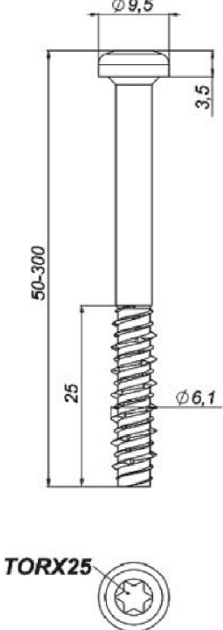
KOELNER Flat Roof Fasteners

Combination 38

Mount: GOK-PLUS
Fastener: WBT-A

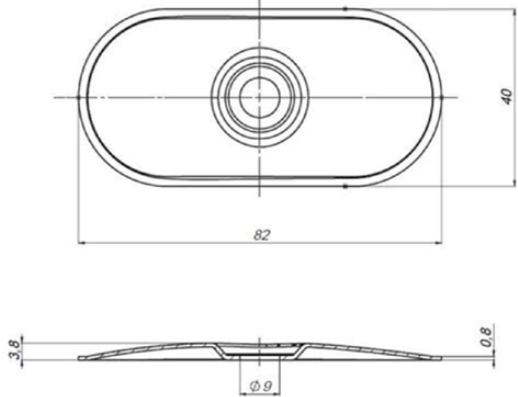
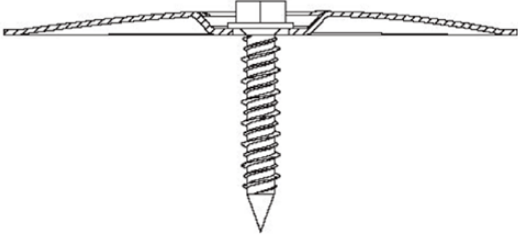
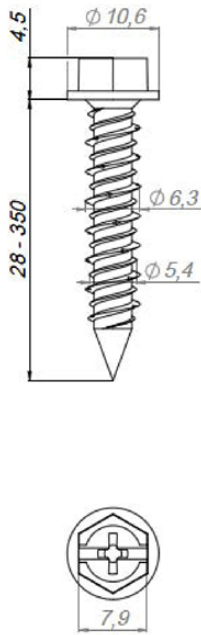
Annex 38

<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 39</p>
<p>Combination 39 Mount: GOK75 Fastener: WBT-A</p>		

	
	
<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 40 Mount: GOW Fastener: WBT-A</p>	
<p>Annex 40</p>	

<p>TORX25</p>		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 41</p> <p>Mount: GOW-PLUS</p> <p>Fastener: WBT-A</p>		<p>Annex 41</p>

<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 42</p> <p>Mount: POW-07-AlZn</p> <p>Fastener: WCS</p>	<p>Annex 42</p>

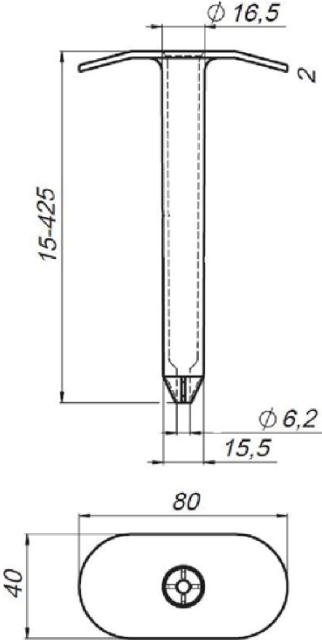
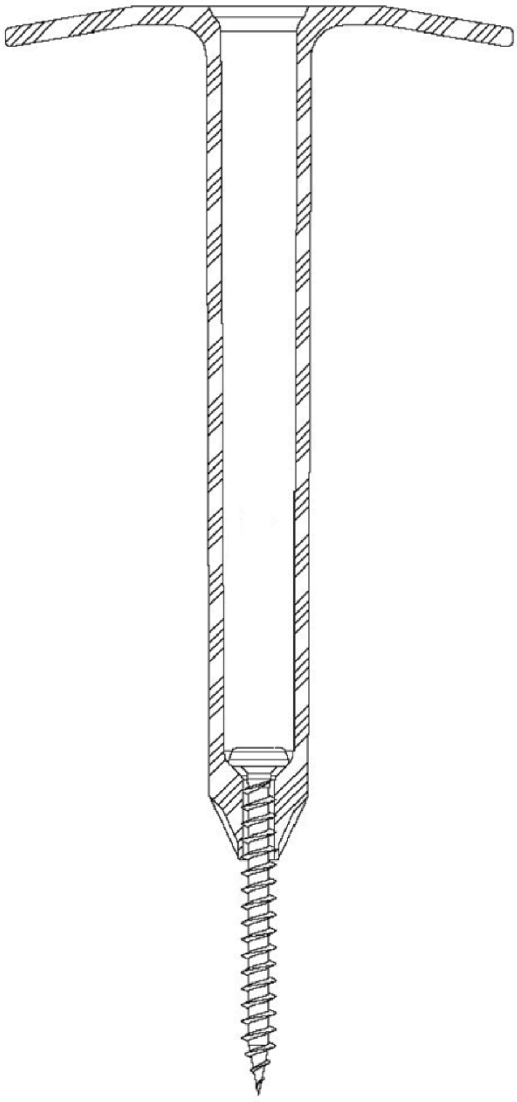
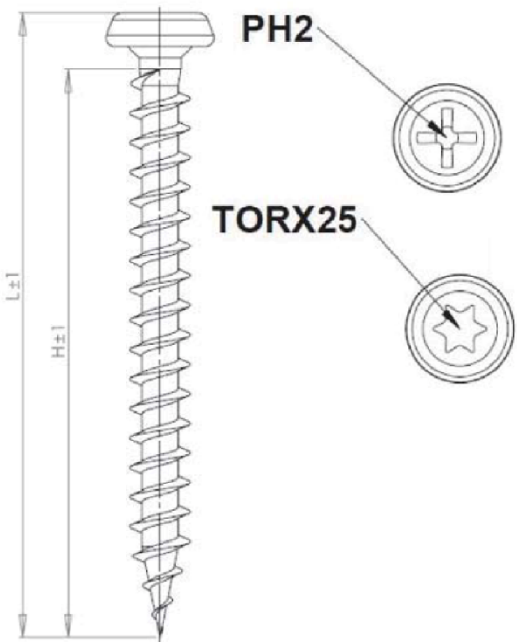
		
		
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 43</p> <p>Mount: POW-09-AIZn Fastener: WCS</p>		<p>Annex 43</p>

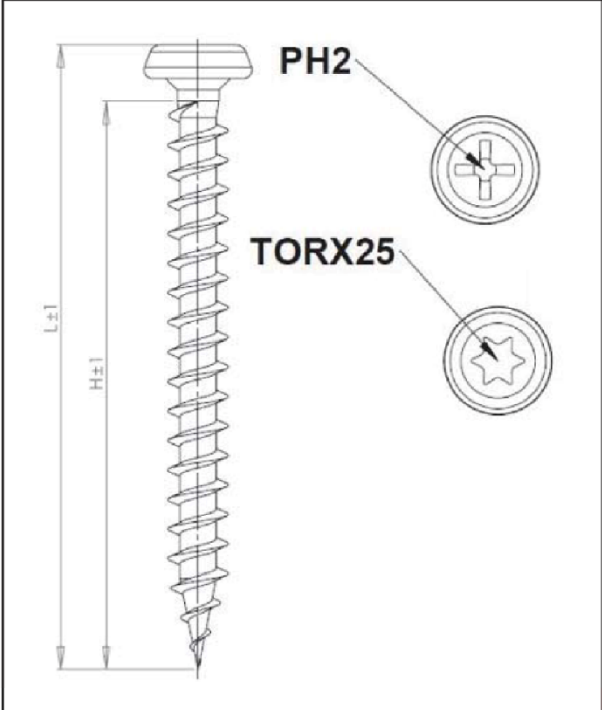
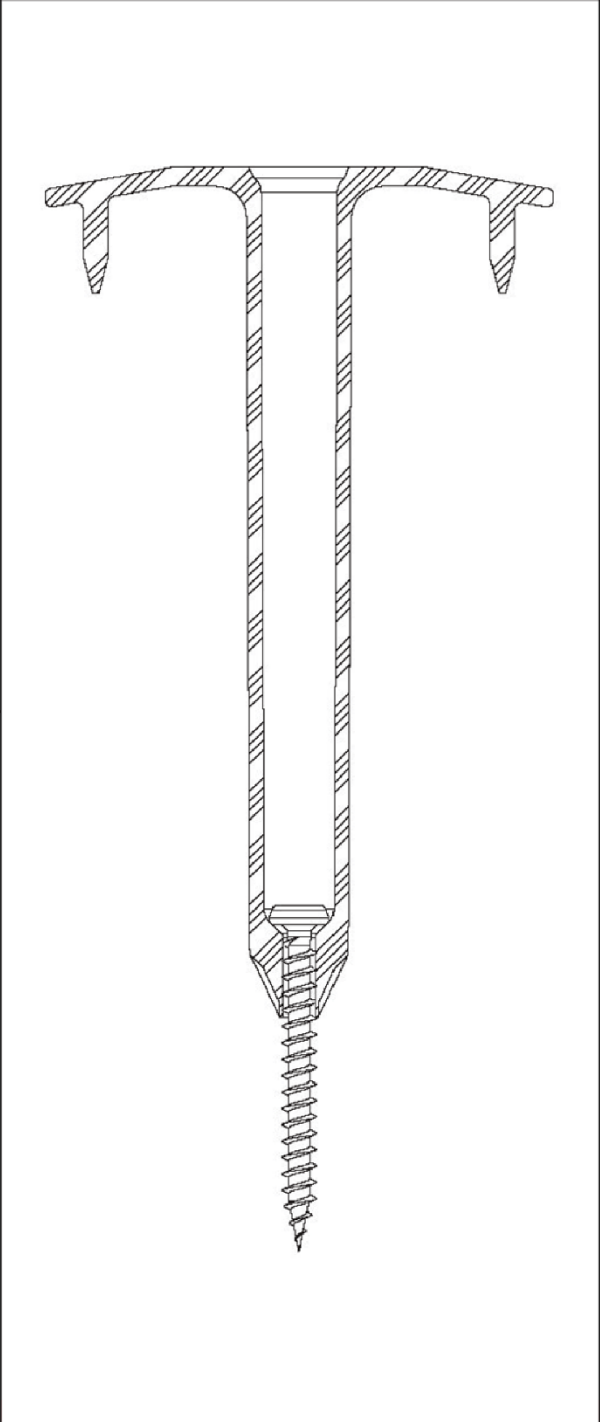
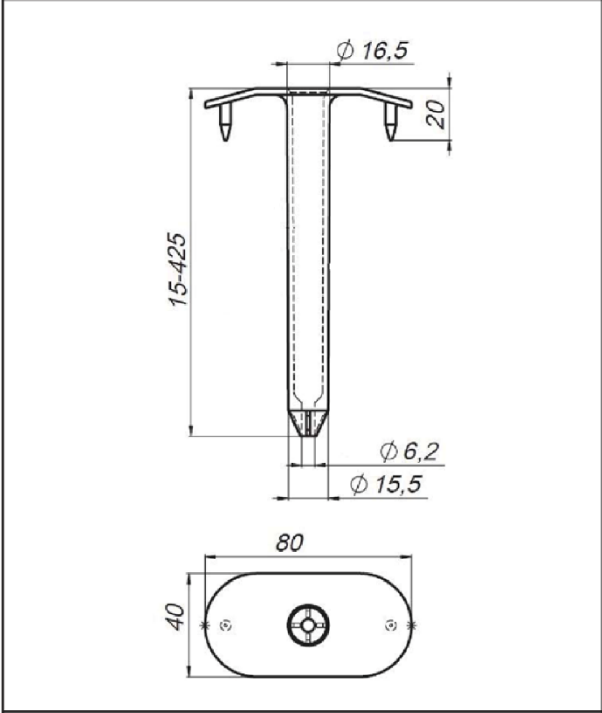
	<p>KOELNER Flat Roof Fasteners</p> <p>Combination 44</p> <p>Mount: POK-041-AlZn Fastener: WCS</p> <p style="text-align: right;">Annex 44</p>

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 45</p> <p>Mount: GOK</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>		<p>Annex 45</p>

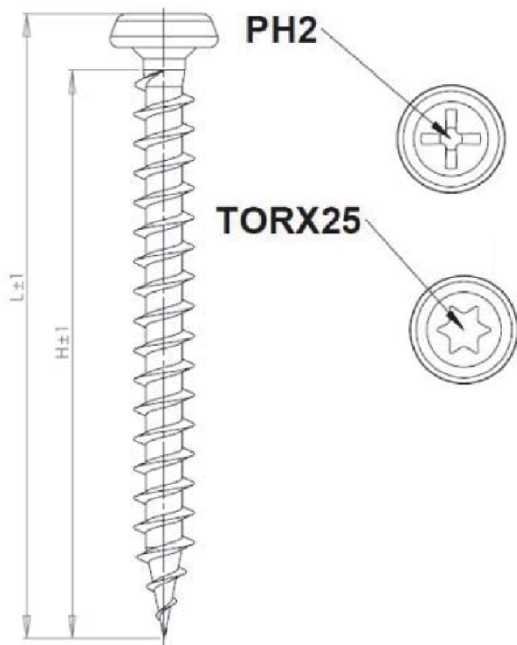
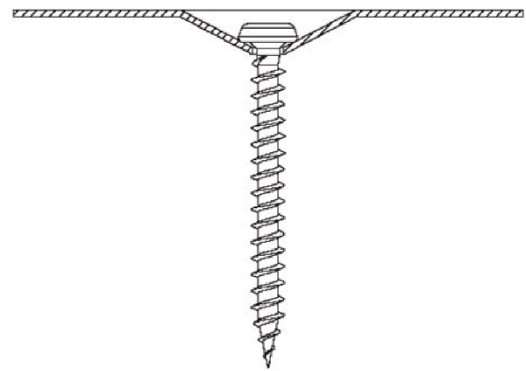
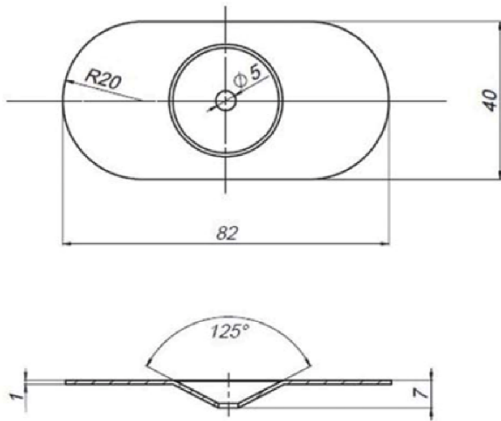
<p>KOELNER Flat Roof Fasteners</p> <p>Combination 46</p> <p>Mount: GOK-PLUS</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>		<p>Annex 46</p>

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 47</p> <p>Mount: GOK75</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>		<p>Annex 47</p>

	
	
<p>KOELNER Flat Roof Fasteners</p>	
<p>Combination 48</p> <p>Mount: GOW</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>	
<p>Annex 48</p>	



KOELNER Flat Roof Fasteners		Annex 49
Combination 49		
Mount:	GOW-PLUS	
Fastener:	WW (PH2- or Torx25-Drive)	



KOELNER Flat Roof Fasteners

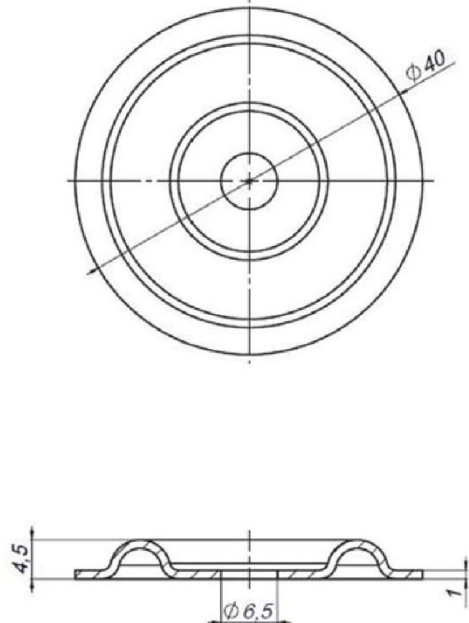
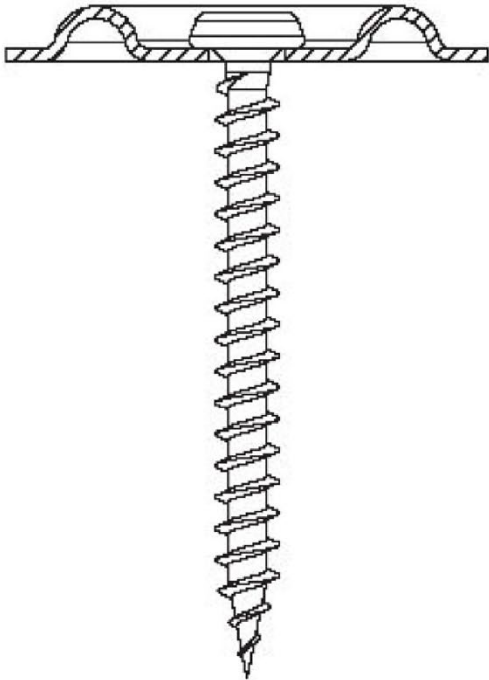
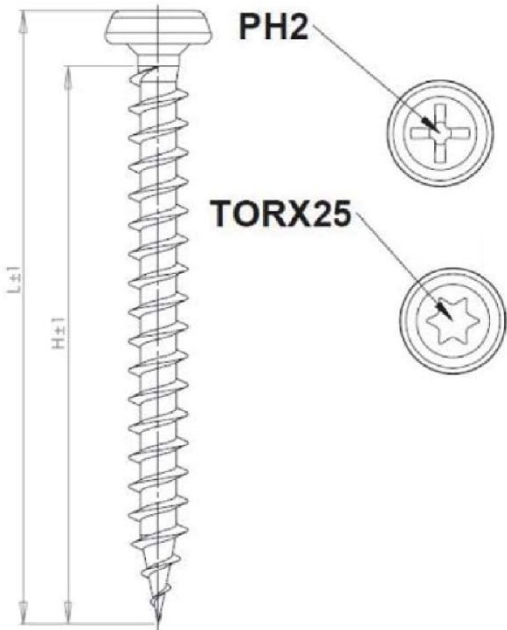
Combination 50

Mount: POW-05-AlZn
 Fastener: WW (PH2- or Torx25-Drive)

Annex 50

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 51</p> <p>Mount: POW-07-AlZn</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>		<p>Annex 51</p>

<p>KOELNER Flat Roof Fasteners</p> <p>Combination 52</p> <p>Mount: POW-09-AlZn</p> <p>Fastener: WW (PH2- or Torx25-Drive)</p>		<p>Annex 52</p>

		
		
<p>KOELNER Flat Roof Fasteners</p>		<p>Annex 53</p>
<p>Combination 53 Mount: POK-041-AlZn Fastener: WW (PH2- or Torx25-Drive)</p>		

No.	Screw	Mount	Metal sheetings ¹⁾							Structural Timber ²⁾	Plywood ³⁾	OSB ⁴⁾	Concrete ⁵⁾ Light-concrete ⁶⁾	
			0,50	0,63	0,75	0,88	1,00	1,25	1,50					
1	WX (T25 / PH2)	GOK	—	0,76	1,01	1,28	1,53	1,66	1,66	—	—	—	—	
2		GOK-PLUS												
3		GOK75												
4		GOW												
5		GOW-PLUS												
6		POW-05-AIZn												
7		POW-07-AIZn												
8		POK-041-AIZn												
9	WB	POW-05-AIZn	—	0,68	0,96	1,25	1,53	2,10	2,68	—	—	—	—	
10		POW-07-AIZn												
11		POW-09-AIZn												
12		POK-041-AIZn												
13	WO (T25 / PH2)	GOK	0,40	0,68	0,93	1,20	1,45	1,66	1,66	1,45	1,57	1,08	—	
14		GOK-PLUS												
15		GOK75												
16		GOW												
17		GOW-PLUS												
18		POW-05-AIZn												
19		POW-07-AIZn												
20	POK-041-AIZn													
21	WO (T25 / PH2) with Dowel K08	GOK	—	—	—	—	—	—	—	—	—	—	1,66	
22		GOK-PLUS											1,73	
23		GOK75											1,71	
24		GOW											1,97	
25		GOW-PLUS												
26		POW-05-AIZn												
27		POW-07-AIZn												
28	POK-041-AIZn													
29	WBT	GOK	—	—	—	—	—	—	1,59	1,47	0,98	—	1,66	
30		GOK-PLUS											1,73	
31		GOK75											1,71	
32		GOW											5,04	
33		GOW-PLUS											4,29	
34		POW-07-AIZn											3,84	
35		POW-09-AIZn												
36	POK-041-AIZn													
37	WBT-A	GOK	—	—	—	—	—	—	—	—	—	—	1,66	
38		GOK-PLUS											1,73	
39		GOK75											1,71	
40		GOW												
41	GOW-PLUS													
42	WCS	POW-07-AIZn	—	—	—	—	—	—	—	—	—	—	4,71	
43		POW-09-AIZn											4,29	
44		POK-041-AIZn											3,84	
45	WW	GOK	—	—	—	—	—	—	—	1,66	1,66	1,32	—	
46		GOK-PLUS												1,66
47		GOK75												1,73
48		GOW												1,71
49		GOW-PLUS												
50		POW-05-AIZn												
51		POW-07-AIZn												
52		POW-09-AIZn												1,79
53		POK-041-AIZn												

¹⁾ Steel S280GD - EN 10346, nominal thickness t_n in mm
²⁾ Structural Timber / C24 - EN 338, $\rho_{min} = 350\text{kg/m}^3$, effective embedment depth (penetration length of threaded part) $l_{ef} \geq 24\text{mm}$
³⁾ Plywood - EN 12369-2, $\rho_{min} = 400\text{kg/m}^3$, effective embedment depth (penetration length of threaded part) $l_{ef} \geq 20\text{mm}$
⁴⁾ OSB/3 - EN 12369-1, $\rho_{min} = 550\text{kg/m}^3$, effective embedment depth (penetration length of threaded part) $l_{ef} \geq 18\text{mm}$
⁵⁾ Concrete C25/30 - EN 206-1, for WO with K08, $d_{pd} = \varnothing 8,0\text{mm}$ and $l_{ef} \geq 40\text{mm}$, for WBT / WBT-A / WCS, $d_{pd} = \varnothing 5,0\text{mm}$ and $l_{ef} \geq 30\text{mm}$
⁶⁾ Lightconcrete C12/15 - EN 206-1, for WO with K08, $d_{pd} = \varnothing 8,0\text{mm}$ and $l_{ef} \geq 40\text{mm}$, for WBT / WBT-A / WCS, $d_{pd} = \varnothing 5,0\text{mm}$ and $l_{ef} \geq 30\text{mm}$

KOELNER Flat Roof Fasteners	Annex 54
Characteristic Values of Axial Load Resistance in kN	



British Board of Agrément,
1st Floor Building 3
Hatters Lane
Croxley Park
Watford
WD18 8YG