

# PRODUCT DATA SHEET

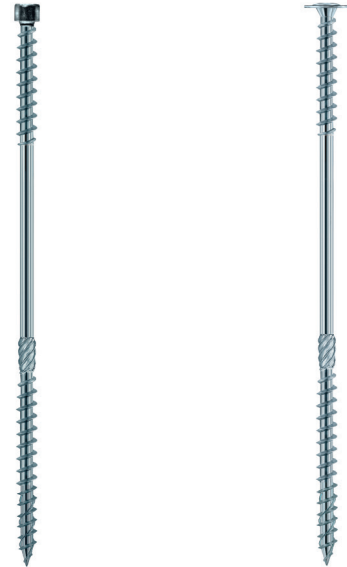
## TOPDUO ROOFING SCREW

### PRODUCT DESCRIPTION

The Topduo roofing screw allows fastening of over-rafter insulation materials with high and low compressive resistance. In addition, the high extraction resistance in both connecting timbers also makes the Topduo suitable for many other applications in timber-frame construction. The screw has a double thread and is available with a flange button head or a cylinder head.

### ADVANTAGES

- For use in service class 1 and 2 conditions in accordance with DIN EN 1995 (Eurocode 5)
- Dual thread enables fastening of insulation with high and low compressive resistance
- Can also be used for many other applications in timber-frame construction thanks to its high extraction resistance
- Resistant to mechanical stress
- No hammering needed thanks to TX drive
- Advantages of screw tip
  - Reduced tightening torque
  - Reduced splitting
  - Increased bite of the screw



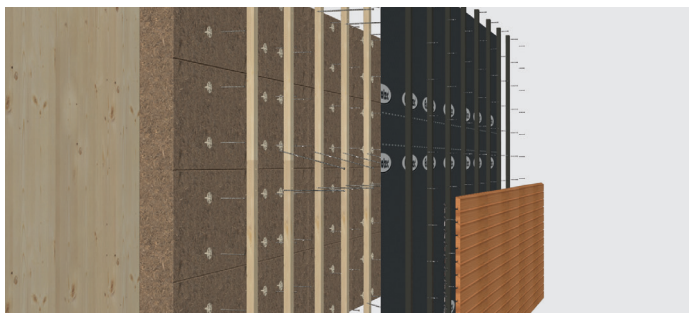
Topduo cylinder head

Topduo flanged button-head

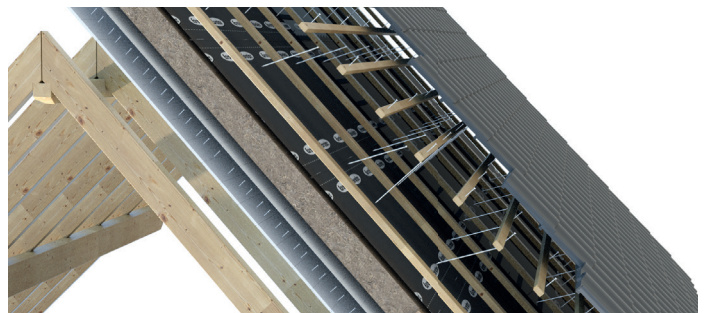
### MATERIAL

- Hardened carbon steel

### IMAGES OF APPLICATIONS



Fastening a façade using vertically positioned wooden slats and Topduo roof construction screw



Roof insulation for a slanting roof with Topduo roof construction screw

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## CERTIFICATION

- European Technical Assessment ETA-11/0024:
  - Self-drilling screws as wood fasteners for diameters of Ø 3.5 to Ø 12.0 mm
  - For fastening above-rafter insulation from diameters of Ø 6.0 mm (usually diameters of Ø 8.0 mm)



## PRODUCT TABLE

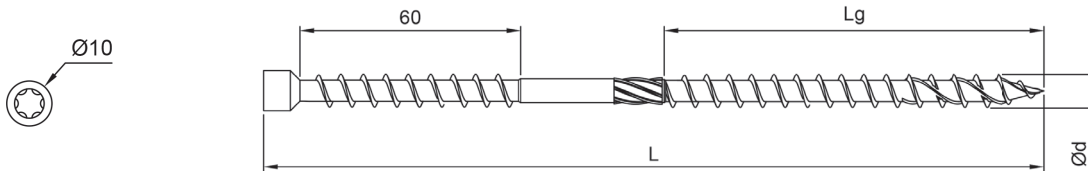
Topduo roofing screw						
Art. no.	Dimensions Ød x L [mm]	Under-head thread [mm]	Thread length lg [mm]	Head diameter Ødh [mm]	Drive	PU
Flange button head						
945870	8 x 165	60	66	16,0	TX40	50
945871	8 x 195	60	95	16,0	TX40	50
945813	8 x 225	60	95	16,0	TX40	50
945814	8 x 235	60	95	16,0	TX40	50
945815	8 x 255	60	95	16,0	TX40	50
945816	8 x 275	60	95	16,0	TX40	50
945817	8 x 302	60	95	16,0	TX40	50
945818	8 x 335	60	95	16,0	TX40	50
945819	8 x 365	60	95	16,0	TX40	50
945820	8 x 397	60	95	16,0	TX40	50
945821	8 x 435	60	95	16,0	TX40	50
945843	8 x 472	60	95	16,0	TX40	50
Cylinder head						
945956	8 x 225	60	95	10,0	TX40	50
945965	8 x 235	60	95	10,0	TX40	50
945957	8 x 255	60	95	10,0	TX40	50
945958	8 x 275	60	95	10,0	TX40	50
945960	8 x 302	60	95	10,0	TX40	50
945961	8 x 335	60	95	10,0	TX40	50
945962	8 x 365	60	95	10,0	TX40	50
945963	8 x 397	60	95	10,0	TX40	50
945964	8 x 435	60	95	10,0	TX40	50

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## DRAWINGS

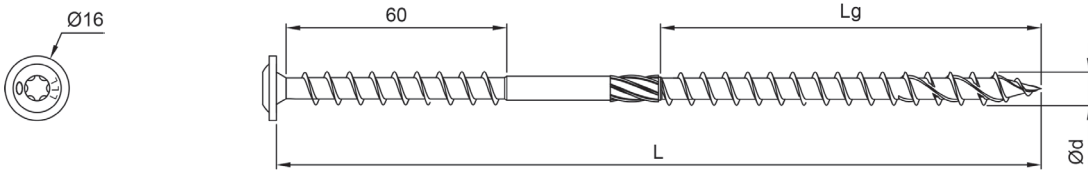
- Topduo cylinder head



Top view

Side view

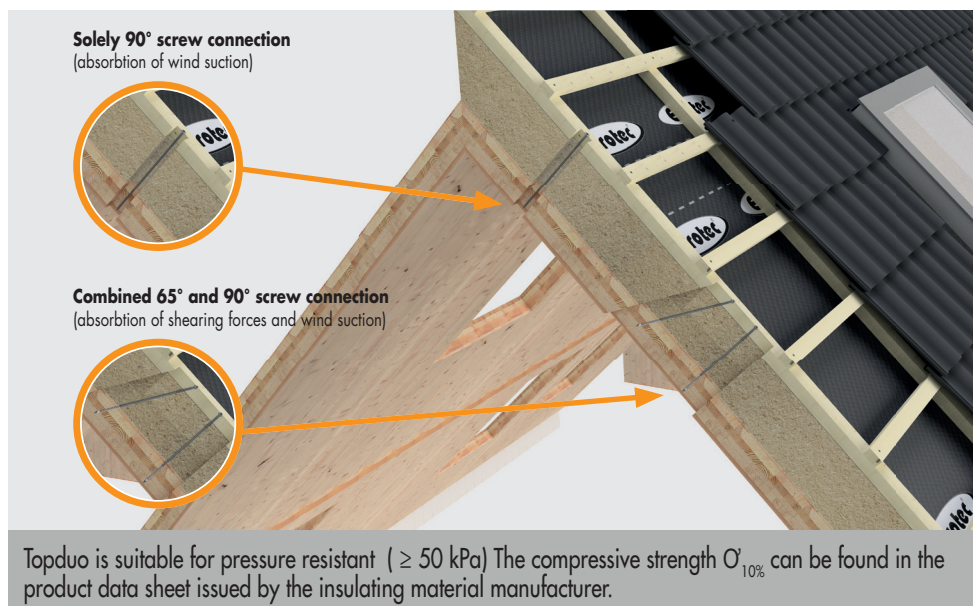
- Topduo flange button



Top view

Side view

## FASTENING OPTIONS



# PRODUCT DATA SHEET

# TOPDUO ROOFING SCREW

CALCULATING QUANTITIES FOR TOPDUO ROOF-CONSTRUCTION SCREW  
 STATICALLY NON-PRESSURE-RESISTANT INSULATING MATERIALS AT  $\sigma_{10\%} < 50$  KPA

## Design sample for specified assumptions, project-related design may yield significantly more favourable results

		Number of Topduo screws per m <sup>2</sup>													
Insulation thickness		40	60	80	100	120	140	140	160	180	200	220	240	260	280
Boarding thickness (on rafters)		24	24	24	24	24	-	24	24	24	24	24	24	24	24
Dimensions Topduo Flanged button-head acc. Cylinder-head <sup>a)</sup>		8 x 165 <sup>b)</sup>	8 x 195 <sup>b)</sup>	8 x 225	8 x 235	8 x 255	8 x 275	8 x 302	8 x 335	8 x 335	8 x 365	8 x 365	8 x 397	8 x 435	8 x 435
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
Snow load zone 2 <sup>c)</sup>	0° ≤ DN ≤ 10°	2,20	2,20	2,38	2,38	2,38	2,38	2,38	2,29	2,29	2,48	3,01	3,57	4,08	4,76
	10° < DN ≤ 25°	2,38	2,38	2,60	2,60	2,60	2,60	2,60	2,60	2,60	3,17	3,81	4,40	e)	e)
Wind zone 4 <sup>d)</sup>	25° < DN ≤ 40°	2,72	2,72	3,01	3,01	3,01	3,01	3,01	3,01	3,01	3,57	4,40	5,19	e)	e)
	40° < DN ≤ 60°	2,86	3,01	3,17	3,17	3,36	3,36	3,36	3,36	3,36	3,57	4,40	5,19	e)	e)
Snow load zone 3 <sup>f)</sup>	0° ≤ DN ≤ 10°	1,79	1,79	1,97	2,04	2,04	2,04	2,04	2,12	2,60	3,81	4,40	5,19	e)	e)
	10° < DN ≤ 25°	2,29	2,29	2,48	2,60	2,60	2,60	2,60	2,72	3,36	4,76	e)	e)	e)	e)
Wind zone 2 <sup>g)</sup>	25° < DN ≤ 40°	2,38	2,48	2,72	2,72	2,72	2,86	2,86	2,86	3,57	5,19	e)	e)	e)	e)
	40° < DN ≤ 60°	2,60	2,60	2,86	2,86	2,86	2,86	2,86	3,01	3,57	5,19	e)	e)	e)	e)

a) Quantity always refers to the less favourable value from Topduo Flanged button-head and Cylinder-head

b) Topduo Flanged button-head only, c) Includes snow load zones 1, 2 and 2\*, d) Includes all wind zones apart from North Sea islands

e) Use of our project assessment service is recommended. The design examples listed here represent unfavourable, i.e. statically safe, instances.

f) Includes snow load zones 1, 2 and 3, g) Includes wind zones 1 and 2 (inland)

### Further assumptions:

Design with ECS design software in accordance with ETA-11/0024; screw-in angle 65°; gabled roof; ridge height above ground max. 18 m; gross density insulation 1,50 kN/m<sup>3</sup>; rafters C24 8/≥12 cm; counter batten C24 4/6 cm; rafter centre distance 0,70 m; roofing dead weight 0,55 kN/m<sup>2</sup>; snow guard available; quantity calculation regarding wind pressure after the most unfavourable roof area.

All listed values should be viewed as subject to the assumptions that have been made. They therefore represent example calculations and are subject to typographical and printing errors.

**Please note:** These are planning aids. Projects must only be calculated by authorised persons.

# PRODUCT DATA SHEET

# TOPDUO ROOFING SCREW

## CALCULATING QUANTITIES FOR TOPDUO ROOFING SCREW

STATICALLY PRESSURE-RESISTANT INSULATING MATERIALS AT  $\sigma_{10\%} \geq 50 \text{ KPA}$

### Design sample for specified assumptions, project-related design may yield significantly more favourable results

		Number of Topduo screws per m <sup>2</sup>													
Insulation thickness		40	60	80	100	120	140	160	180	200	220	240	260	280	300
Boarding thickness (on rafters)		24	24	24	24	24	24	24	24	24	24	24	24	24	24
Dimensions Topduo Flanged button-head acc. Cylinder-head <sup>d)</sup>		8 x 195 <sup>b)</sup>	8 x 225	8 x 235	8 x 255	8 x 275	8 x 302	8 x 335	8 x 335	8 x 365	8 x 365	8 x 397	8 x 435	8 x 435	8 x 472 <sup>b)</sup>
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
Snow load zone 2 <sup>c)</sup>	0° ≤ DN ≤ 10°	1,96	2,06	2,06	2,06	2,06	2,06	2,06	2,06	2,06	2,06	2,12	1,80	2,40	2,32
	10° < DN ≤ 25°	2,11	2,05	1,97	1,94	1,97	1,90	1,85	2,14	2,01	2,74	2,57	2,38	3,23	2,93
Wind zone 4 <sup>d)</sup>	25° < DN ≤ 40°	2,48	2,41	2,28	2,35	2,41	2,35	2,18	2,67	2,49	3,48	3,22	2,96	4,42	3,79
	Altitude NN ≤ 285 m	40° < DN ≤ 60°	2,31	2,30	2,56	2,65	2,74	2,65	2,42	2,96	2,74	4,00	3,70	3,48	4,87
Snow load zone 3 <sup>f)</sup>	0° ≤ DN ≤ 10°	2,65	2,54	2,39	2,34	2,26	2,23	2,34	2,34	2,16	2,46	2,32	2,19	2,86	2,65
	10° < DN ≤ 25°	4,04	3,81	3,55	3,33	3,33	3,15	3,15	2,99	2,99	3,66	3,37	3,06	4,37	3,74
Wind zone 2 <sup>g)</sup>	25° < DN ≤ 40°	4,46	4,16	3,84	3,58	3,58	3,58	3,37	3,37	3,37	4,67	4,20	3,92	e)	e)
	Altitude NN ≤ 400 m	40° < DN ≤ 60°	3,55	3,26	3,26	3,26	3,44	3,26	2,96	3,66	3,44	e)	4,67	4,27	e)

a) Quantity always refers to the less favourable value from Topduo Flanged button-head and Cylinder-head

b) Topduo Flanged button-head only, c) Includes snow load zones 1, 2 and 2\* each with snow guard, d) Includes all wind zones apart from North Sea islands

e) Use of our project assessment service is recommended. The design examples listed here represent unfavourable, i.e. statically safe, instances.

f) Includes snow load zones 1, 2 and 3, g) Includes wind zones 1 and 2 (inland)

#### Further assumptions:

Design with ECS design software in accordance with ETA-11/0024; screw-in angle roof thrust screw 65°/wind pressure screw 90°; gabled roof; ridge height above ground max. 18 m; gross density insulation 1,50 kN/m<sup>3</sup>; rafters C24 8/≥12 cm; counter batten C24 4/6 cm; rafter centre distance 0,70 m; roofing dead weight 0,55 kN/m<sup>2</sup>; snow guard available; quantity calculation with respect to wind pressure after the most unfavourable roof area.

All listed values should be viewed as subject to the assumptions that have been made. They therefore represent example calculations and are subject to typographical and printing errors.

**Please note:** These are planning aids. Projects must only be calculated by authorised persons.

If you are not familiar with how this product is used, and particularly with the product's intended use, please contact our Application Technology department (technik@eurotec.team).