

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-11/0283
of 6 June 2023

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

S+P screws

Product family
to which the construction product belongs

S+P screws for use in timber construction

Manufacturer

Schäfer + Peters GmbH
Zeilbaumweg 32
74613 Öhringen
DEUTSCHLAND

Manufacturing plant

Werk 1-100

This European Technical Assessment
contains

50 pages including 4 annexes which form 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 130118-01-0603 – SCREWS AND THREADED
RODS FOR USE IN TIMBER CONSTRUCTIONS

This version replaces

ETA-11/0283 issued on 10 January 2020

European Technical Assessment

ETA-11/0283

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Gerhard Schäfer, Heilmut Peters
Registergericht: Stuttgart HRB 580350
Gerichtsstand Oßhringen

8.06.03-36/23

Specific Part

1 Technical description of the product

SP-HBS, SP-Drill, SP-Super-Drill, T-Drill and TBS-Drill screws are self-tapping screws made from special stainless steel. Screws made from stainless steel no. 1.4006 are hardened. They have an antifriction coating. The outer thread diameter is not less than 3.0 mm and not greater than 10.0 mm. The overall length of the screws is ranging from 12 mm to 400 mm. Further dimensions are shown in Annex 4. The washers are made from stainless steel. The dimensions of the washers are given in Annex 4.

All screws achieve a bending angle α of at least $45/d^{0.7} + 20$, where d is the outer thread diameter of the screws.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the screws are used in compliance with the specifications and conditions given in Annex 1 to 3.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the screws of at least 50 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.

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

3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Dimensions	See Annex 4
Characteristic yield moment	See Annex 2
Bending angle	See Annex 2
Characteristic withdrawal parameter	See Annex 2
Characteristic head pull-through parameter	See Annex 2
Characteristic tensile strength	See Annex 2
Characteristic yield strength	No performance determined
Characteristic torsional strength	See Annex 2
Insertion moment	See Annex 2
Spacings, end and edge distances of the screws and minimum thickness of the wood-based material	See Annex 2
Slip modulus for mainly axially loaded screws	See Annex 2
Durability against corrosion	See Annex 2

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3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1

3.3 Safety and accessibility in use (BWR 4)

Same as BWR 1.

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

In accordance with EAD No. 130118-01-0603 the applicable European legal act is: 97/176/EC.

The system to be applied is: 3

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 with Deutsches Institut für Bautechnik.

Issued in Berlin on 6 June 2023 by Deutsches Institut für Bautechnik

Anja Dewitt
Head of Section

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Annex 1 Specifications of intended use

A.1.1 Use of the S+P screws only for:

- static and quasi-static loads

A.1.2 Connection material

The screws are used for connections in load-bearing timber structures between timber members or between timber members and steel members:

- Solid timber (softwood) in accordance with EN 14081-1¹,
- Glued laminated timber in accordance with EN 14080²,
- Laminated veneer lumber LVL (softwood) in accordance with EN 14374³, arrangement of the screws only perpendicular to the plane of the veneers,
- Glued solid timber in accordance with EN 14080,
- Cross laminated timber (softwood) in accordance with European Technical Assessments.

The screws are used for connecting the following wood-based panels to the timber members mentioned above:

- Plywood in accordance with EN 636⁴ and EN 13986⁵,
- Oriented strand boards (OSB) in accordance with EN 300⁶ and EN 13986,
- Particleboards in accordance with EN 312⁷ and EN 13986,
- Fibreboards in accordance with EN 622-2⁸, EN 622-3⁹ and EN 13986,
- Cement-bonded particleboards in accordance with EN 634-2¹⁰ and EN 13986,
- Solid-wood panels (SWP) in accordance with EN 13353¹¹ and EN 13986.

Wood-based panels are only arranged on the side of the screw head.

SP-HBS and SP-Drill screws with an outer thread diameter of at least 6 mm may also be used for the fixing of thermal insulation material on top of rafters or on wood-based members in vertical façades

1	EN 14081-1:2005+A1:2011	Timber structures – Strength graded structural timber with rectangular cross section – Part 1: General requirements
2	EN 14080:2013	Timber structures – Glued laminated timber and glued solid timber - Requirements
3	EN 14374:2004	Timber structures – Structural laminated veneer lumber – Requirements
4	EN 636:2012+A1:2015	Plywood – Specifications
5	EN 13986:2004+A1:2015	Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking
6	EN 300:2006	Oriented strand boards (OSB) – Definition, classification and specifications
7	EN 312:2010	Particleboards – Specifications
8	EN 622-2:2004/AC:2005	Fibreboards – Specifications – Part 2: Requirements for hardboards
9	EN 622-3:2004	Fibreboards – Specifications – Part 3: Requirements for medium boards
	EN 634-2:2007	Cement-bonded particleboards – Specifications – Part 2: Requirements for OPC bonded particleboards for use in dry, humid and external conditions
11	EN 13353:2022	Solid wood panels (SWP) – Requirements

S+P screws	Annex 1.1
Specifications of intended use	



A.1.3 Use Conditions (environmental conditions)

The corrosion protection of the S+P screws is specified in Annex A.2.6.

A.1.4 Installation provisions

EN 1995-1-1¹² applies for the installation of S+P screws.

The screws are either driven into the timber member made of softwood without pre-drilling or in pre-drilled holes with a diameter not exceeding the inner thread diameter.

The screw holes in steel members are pre-drilled with an adequate diameter greater than the outer thread diameter.

A minimum of two screws is used for connections in load-bearing timber structures.

If screws with an outer thread diameter $d \geq 8$ mm are used in load-bearing timber structures, the structural solid timber, glued laminated timber, glued solid timber, laminated veneer lumber and cross laminated timber is from spruce, pine or fir.

In the case of fastening counter battens on thermal insulation material on top of rafters the screws are driven in the rafter through the counter battens and the thermal insulation material without pre-drilling in one sequence.

Countersunk head screws can be used with washers in accordance with Annex 4. After inserting the screw the washers touch the surface of the timber member completely. Screws made from stainless steel are used with washers made from stainless steel.

By fastening screws in timber members the head of the screws is flush with the surface of the timber member. For screws with a pan washer or hexagon head the head part remains unconsidered.

¹² EN 1995-1-1:2004+A1:2008+A2:2014

S+P screws	Annex 1.2
Installation provisions	

Annex 2 Characteristic values of the load-carrying capacities

Table A.2.1 Characteristic load-carrying capacities of S+P self-tapping screws

Outer thread diameter [mm]		3.0	3.2	3.5	4.0	4.5	5.0	5.5	6.0	8.0	10.0
Characteristic yield moment $M_{y,k}$ [Nm]	SP-HBS and SP-Drill	0.9	1.2	1.5	1.7	3.0	3.9	-	6.3	13.0	24.0
	SP-HBS and SP-Drill hardened	1.5	2.0	2.8	3.3	3.8	5.0	-	9.0	13.0	24.0
	SP-Super-Drill	-	-	-	3.9	5.2	6.9	-	11.1	-	-
	TBS-Drill	-	-	-	-	-	-	6.0	-	-	-
	T-Drill and TBS-Drill hardened	-	-	-	-	-	10.0	12.0	-	-	-
Characteristic tensile strength $f_{tens,k}$ [kN]	SP-HBS and SP-Drill	1.7	2.0	2.4	3.1	4.0	4.4	-	7.1	13.0	20.0
	SP-HBS and SP-Drill hardened	2.8	3.2	3.8	5.0	6.4	7.9	-	11.0	13.0	20.0
	SP-Super-Drill	-	-	-	5.0	5.9	7.9	-	11.0	-	-
	TBS-Drill	-	-	-	-	-	-	7.1	-	-	-
	T-Drill and TBS-Drill hardened	-	-	-	-	-	7.9	9.5	-	-	-
Characteristic torsional strength $f_{tor,k}$ [Nm]	SP-HBS and SP-Drill	0.8	1.3	1.4	2.2	2.7	3.8	-	6.0	15.0	30.0
	SP-HBS and SP-Drill hardened	1.4	1.9	2.7	3.5	4.3	5.9	-	11.5	15.0	30.0
	SP-Super-Drill	-	-	-	3.5	5.0	8.0	-	14.0	-	-
	TBS-Drill	-	-	-	-	-	-	8.0	-	-	-
	T-Drill and TBS-Drill hardened	-	-	-	-	-	9.5	11.5	-	-	-

A.2.1 General

All S+P screws achieve a bending angle α of at least $45/d^{0.7} + 20$, where d is the outer thread diameter of the screws.

The minimum penetration length of the threaded part of the screw l_{ef} is

$$l_{ef} = \min \begin{cases} 4 \cdot d \\ \sin \alpha \\ 20 \cdot d \end{cases} \quad (2.1)$$

Where

α angle between screw axis and grain direction [°],

d outer thread diameter of the screw [mm].

The outer thread diameter d of screws inserted in cross laminated timber is at least 6 mm.

S+P screws	Annex 2.1
Characteristic values of load-carrying capacities	

To connect cross laminated timber the inner thread diameter d_1 of the screws is greater than the maximal width of the gaps in the layer.

A.2.2 Laterally loaded screws

The outer thread diameter d is used as effective diameter of the screw in accordance with EN 1995-1-1.

A.2.3 Axially loaded screws

A.2.3.1 Axial slip modulus for axially loaded screws

The axial slip modulus K_{ser} of the threaded part of a screw for the serviceability limit state per side is independent of angle α to the grain:

$$K_{ser} = 780 \cdot d^{0.2} \cdot l_{ef}^{0.4} \quad [\text{N/mm}] \quad (2.2)$$

Where

d outer thread diameter of the screw [mm],

l_{ef} penetration length of the of the threaded part of the screw in the timber member [mm].

A.2.3.2 Axial withdrawal capacity – Characteristic withdrawal parameter

The characteristic withdrawal parameter for S+P screws at an angle of $\alpha = 90^\circ$ to the grain based on a characteristic density of the wood-based member of 350 kg/m^3 is

$f_{ax,90,k} = 13.7 \text{ N/mm}^2$ for SP-HBS and SP-Super-Drill screws

$f_{ax,90,k} = 10.0 \text{ N/mm}^2$ for SP-Drill, SP-HBS hardened, T-Drill and TBS-Drill screws.

For LVL a maximum characteristic density of 500 kg/m^3 shall be used in equation (8.40a) of EN 1995-1-1.

For screws penetrating more than one layer of cross laminated timber the different layers may be taken into account proportionally. In the narrow faces of the cross laminated timber the screws shall be fully inserted in one layer.

A.2.3.3 Head pull-through capacity – Characteristic head pull-through parameter

The characteristic value of the head pull-through parameter for S+P screws for a characteristic density of 350 kg/m^3 of the timber and for wood-based panels like

- Plywood in accordance with EN 636 and EN 13986,
- Oriented strand boards (OSB) in accordance with EN 300 and EN 13986,
- Particleboards in accordance with EN 312 and EN 13986,
- Fibreboards in accordance with EN 622-2, EN 622-3 and EN 13986,
- Cement-bonded particleboards in accordance with EN 634-2 and EN 13986,
- Solid wood panels in accordance with EN 13353 and EN 13986

with a thickness of more than 20 mm is

$$f_{head,k} = 9.4 \text{ N/mm}^2.$$

For wood-based panels a maximum characteristic density of 380 kg/m^3 shall be used in equation (8.40b) of EN 1995-1-1.

For wood-based panels with a thickness $12 \text{ mm} \leq t \leq 20 \text{ mm}$ the characteristic value of the head pull-through parameter for S+P screws is:

$$f_{head,k} = 8.0 \text{ N/mm}^2$$

For wood-based panels with a thickness of less than 12 mm the characteristic head pull-through capacity for S+P screws shall be based on a characteristic value of the head pull-through parameter of 8.0 N/mm^2 . The head pull-through capacity shall be limited to 400 N. A minimum thickness of the wood-based panels of $1.2 \cdot d$ where d is the outer thread diameter and the values in Table A.2.2 shall be complied.

S+P screws	Annex 2.2
Characteristic values of load-carrying capacities	

Table A.2.2 Minimum thickness of wood-based panels

Wood-based panel	Minimum thickness [mm]
Plywood	6
Fibreboards (hardboards and medium boards)	6
Oriented strand boards (OSB)	8
Particleboards	8
Cement-bonded particleboards	8
Solid wood panels (SWP)	12

In steel-to-timber connections the head pull-through capacity is not decisive.

A.2.4 Spacings, end and edge distances of the screws and minimum thickness of the wood-based material

A.2.4.1 Laterally or laterally and axially loaded screws

Screws in pre-drilled holes

For S+P screws in pre-drilled holes the minimum spacings, end and edge distances are given in EN 1995-1-1, clause 8.3.1.2 and Table 8.2 as for nails in pre-drilled holes. Here, the outer thread diameter d shall be considered.

Minimum thickness for structural timber members made of solid timber, glued laminated timber, glued solid timber, laminated veneer lumber and cross laminated timber is $t = 30$ mm for screws with $d \leq 8$ mm and $t = 40$ mm for screws with $d = 10$ mm.

Screws in non pre-drilled holes

For S+P screws in non-predrilled holes the minimum spacings, end and edge distances and the minimum member thicknesses are given in EN 1995-1-1, clause 8.3.1.2 and Table 8.2 as for nails in non-predrilled holes. Here, the outer thread diameter d shall be considered.

For Douglas fir members minimum spacing and distances parallel to the grain are increased by 50 %.

Minimum distances from loaded or unloaded ends are at least $15 \cdot d$ for screws with outer thread diameter $d \geq 8$ mm and timber thickness $t < 5 \cdot d$.

Minimum distances from the unloaded edge perpendicular to the grain may be reduced to $3 \cdot d$ also for timber thickness $t < 5 \cdot d$, if the spacing parallel to the grain and the end distance is at least $25 \cdot d$.

A.2.4.2 Only axially loaded screws

For SP-screws the minimum spacings, end and edge distances as well as the minimum member thicknesses are given in EN 1995-1-1, clause 8.3.1.2 and Table 8.2 as for nails in non-predrilled holes and clause 8.7.2, Table 8.6.

A.2.5 Insertion moment

The ratio between the characteristic torsional strength $f_{tor,k}$ and the mean value of insertion moment $R_{tor,mean}$ fulfills the requirement for all S+P screws.

A.2.6 Durability against corrosion

Steel no. 1.4006, 1.4301, 1.4567, 1.4401, 1.4571, 1.4539 and 1.4529 is used for screws made from stainless steel.

Washers are made from steel no. 1.4301.

Contact corrosion shall be avoided.

S+P screws	Annex 2.3
Spacings, end and edge distances and minimum thicknesses, insertion moment and durability against corrosion	

Annex 3 Fastening of thermal insulation material on top of rafters (informative)

A.3.1 General

SP-HBS and SP-Drill screws with an outer thread diameter of at least 6 mm are also used for the fixing of thermal insulation material on top of rafters or on wood-based members in vertical façades. In the following, the meaning of the word rafter includes wood-based members with inclinations between 0° and 90°.

The thickness of the thermal insulation material is up to 300 mm. A thermal insulation material is used that is applicable as insulation on top of rafters or on wood-based members in vertical façades.

The counter battens are from solid timber (softwood) in accordance with EN 14081-1. The minimum thickness *t* and the minimum width *b* of the counter battens are given as follows:

Table A.3.1 Minimum thickness and minimum width of the counter battens

Outer thread diameter <i>d</i> [mm]	Minimum thickness <i>t</i> [mm]	Minimum width <i>b</i> [mm]
6 and 8	30	50
10	40	60

Instead of counter battens the following wood-based panels may be used to cover the thermal insulation material if they are suitable for that use:

- Plywood in accordance with EN 636 and EN 13986,
- Oriented strand boards (OSB) in accordance with EN 300 and EN 13986,
- Particleboards in accordance with EN 312 and EN 13986,
- Fibreboards in accordance with EN 622-2, EN 622-3 and EN 13986.

The minimum thickness of the wood-based panels is 22 mm.

The minimum width of the rafters is 60 mm.

The word counter batten includes the meaning of wood-based panels in the following.

The spacing between screws *e* is not more than 1.75 m.

Friction forces are not considered for the design of the characteristic axial load of the screws.

The anchorage of wind suction forces shall be considered for design. Screws perpendicular to the grain of the rafter may be arranged where required.

A.3.2 Parallel inclined screws and thermal insulation material in compression

A.3.2.1 Mechanical model

The system of rafter, thermal insulation material on top of rafter and counter battens parallel to the rafter can be considered as a beam on elastic foundation. The batten represents the beam, and the thermal insulation material on top of the rafter the elastic foundation. The minimum compression stress of the thermal insulation material at 10 % deformation, measured in accordance with EN 826¹³, shall be $\sigma_{10\%} = 0.05 \text{ N/mm}^2$. The counter batten is loaded perpendicular to the axis by point loads F_b . Further point loads F_s are from the shear load of the roof due to dead and snow load, which are transferred from the screw heads into the counter battens.

¹³ EN 826:2013 Thermal insulating products for building applications – Determination of compression behaviour

S+P screws	Annex 3.1
Fastening of thermal insulation material on top of rafters	

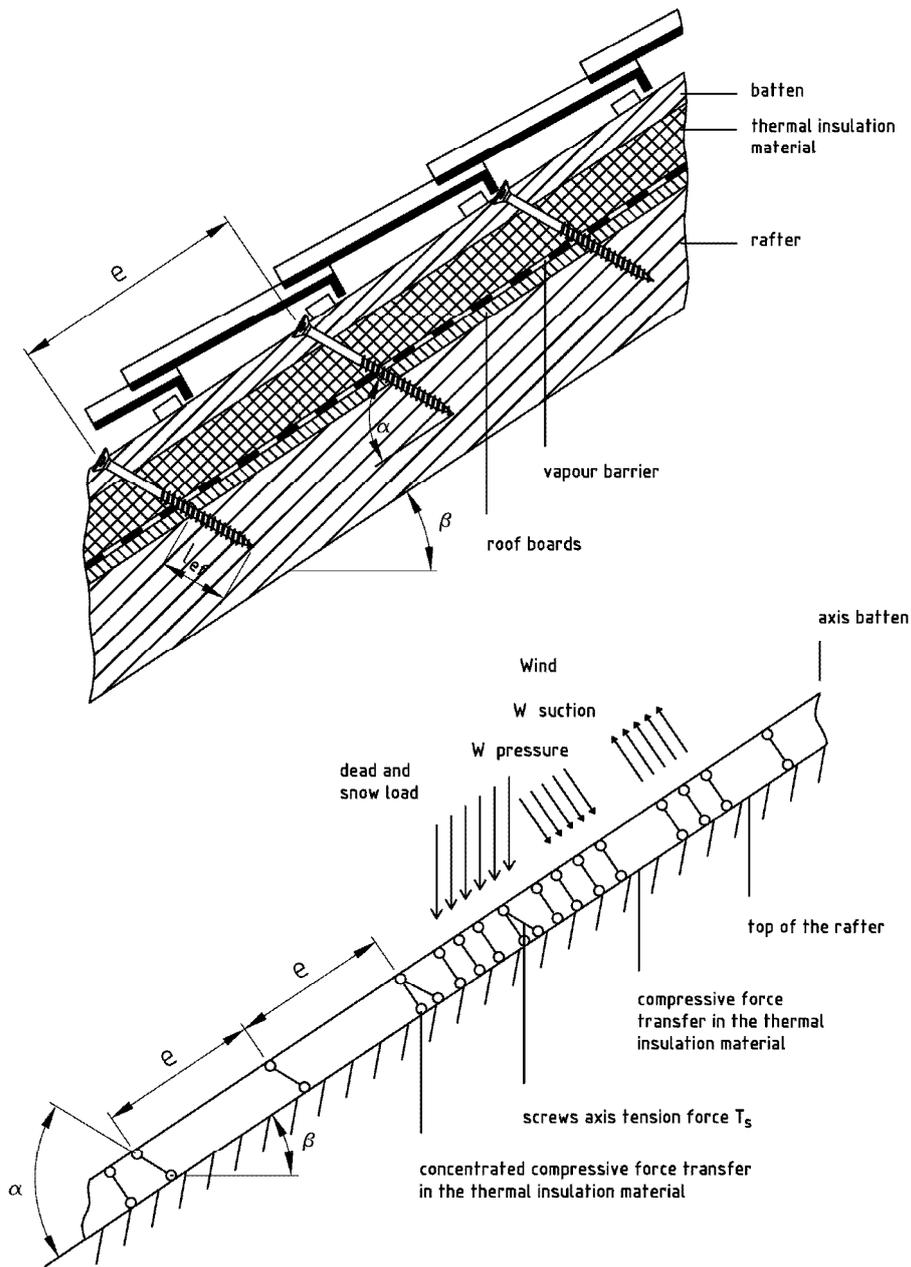


Figure A.3.1 Fastening of the thermal insulation material on top of rafters – Structural system for parallel inclined screws

S+P screws	Annex 3.2
Fastening of thermal insulation material on top of rafters	

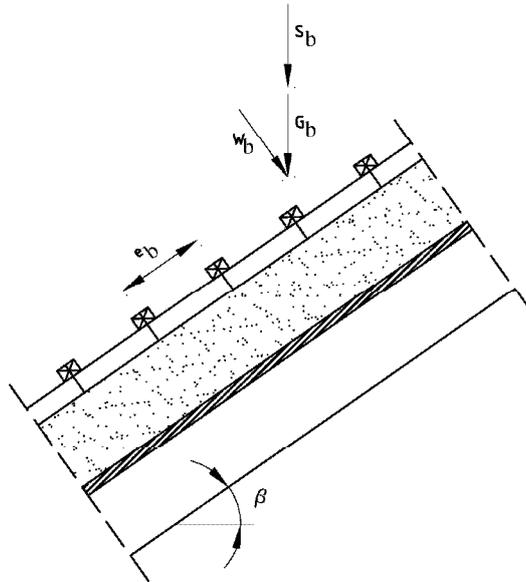


Figure A.3.2 Point loads F_b perpendicular to the counter battens

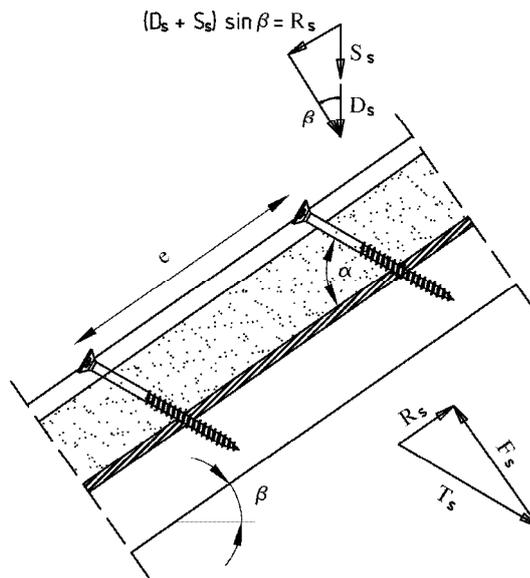


Figure A.3.3 Point loads F_s perpendicular to the counter attens, load application in the area of the screw heads

S+P screws	Annex 3.3
Fastening of thermal insulation material on top of rafters	

A.3.2.2 Design of the counter battens

It's assumed that the spacing between the counter battens exceeds the characteristic length l_{char} .

The characteristic values of the bending stresses may be calculated as:

$$M_k = \frac{(F_{b,k} + F_{s,k}) \cdot l_{char}}{4} \quad (3.1)$$

Where

$$l_{char} \text{ characteristic length } l_{char} = 4 \sqrt{\frac{4 \cdot EI}{w_{ef} \cdot K}} \quad (3.2)$$

EI bending stiffness of the counter batten,

K modulus of subgrade reaction,

w_{ef} effective width of the thermal insulation material,

$F_{b,k}$ characteristic value of the point loads perpendicular to the counter battens,

$F_{s,k}$ characteristic value of the point loads perpendicular to the counter battens, load application in the area of the screw heads.

The modulus of subgrade reaction K can be calculated from the modulus of elasticity E_{HI} and the thickness t_{HI} of the thermal insulation material if the effective width w_{ef} of the thermal insulation material under compression is known. Due to the load extension in the thermal insulation material the effective width w_{ef} is greater than the width of the counter batten or rafter, respectively. For further calculations, the effective width w_{ef} of the thermal insulation material may be determined in accordance with:

$$w_{ef} = w + t_{HI} / 2 \quad (3.3)$$

Where

w minimum from width of the counter batten or rafter, respectively,

t_{HI} thickness of the thermal insulation material.

$$K = \frac{E_{HI}}{t_{HI}} \quad (3.4)$$

The following condition shall be satisfied:

$$\frac{\sigma_{m,d}}{f_{m,d}} = \frac{M_d}{W \cdot f_{m,d}} \leq 1 \quad (3.5)$$

For the calculation of the section modulus W the net cross section shall be considered.

The characteristic value of the shear stresses shall be calculated as:

$$V_k = \frac{(F_{b,k} + F_{s,k})}{2} \quad (3.6)$$

The following condition need to be satisfied:

$$\frac{\tau_d}{f_{v,d}} = \frac{1.5 \cdot V_d}{A \cdot f_{v,d}} \leq 1 \quad (3.7)$$

For the calculation of the cross section area the net cross section shall be considered.

S+P screws	Annex 3.4
Fastening of thermal insulation material on top of rafters	

A.3.2.3 Design of the thermal insulation material

The characteristic value of the compressive stresses in the thermal insulation material may be calculated as:

$$\sigma_k = \frac{1,5 \cdot F_{b,k} + F_{s,k}}{2 \cdot l_{char} \cdot w} \quad (3.8)$$

The design value of the compressive stress shall not be greater than 110 % of the compressive stress at 10 % deformation calculated in accordance with EN 826.

A.3.2.4 Design of the screws

The screws are loaded predominantly axial. The characteristic value of the axial tension force in the screw may be calculated from the shear loads of the roof R_s :

$$T_{S,k} = \frac{R_{S,k}}{\cos \alpha} \quad (3.9)$$

The load-carrying capacity of axially loaded screws is the minimum design value of the axial withdrawal capacity of the threaded part of the screw, the head pull-through capacity of the screw and the tensile strength of the screw in accordance with Annex 2.

In order to limit the deformation of the screw head for thermal insulation material with thickness over 200 mm or with compressive strength below 0.12 N/mm², respectively, the axial withdrawal capacity of the screws are reduced by the factors k_1 and k_2 :

$$F_{ax,\alpha,Rd} = \min \left\{ \frac{f_{ax,d} \cdot d \cdot l_{ef} \cdot k_1 \cdot k_2}{1,2 \cdot \cos^2 \alpha + \sin^2 \alpha} \cdot \left(\frac{\rho_k}{350} \right)^{0,8}; f_{head,d} \cdot d_h^2 \cdot \left(\frac{\rho_k}{350} \right)^{0,8}; \frac{f_{tens,k}}{\gamma_{M2}} \right\} \quad (3.10)$$

Where

$f_{ax,d}$ design value of the axial withdrawal parameter of the threaded part of the screw [N/mm²],

d outer thread diameter of the screw in accordance with Annex 4 [mm],

l_{ef} penetration length of the threaded part of the screw in the counter batten, $l_{ef} \geq 40$ mm,

ρ_k characteristic density of the timber member [kg/m³], for LVL $\rho_k \leq 500$ kg/m³,

α angle α between screw axis and grain direction, $30^\circ \leq \alpha \leq 90^\circ$,

$f_{head,d}$ design value of the head pull-through parameter of the screw [N/mm²],

d_h head diameter of the screw [mm],

$f_{tens,k}$ characteristic tensile strength of the screw in accordance with Annex 2 [N],

γ_{M2} partial factor in accordance with EN 1993-1-1¹⁴,

k_1 $\min \{1; 220/t_{HI}\}$,

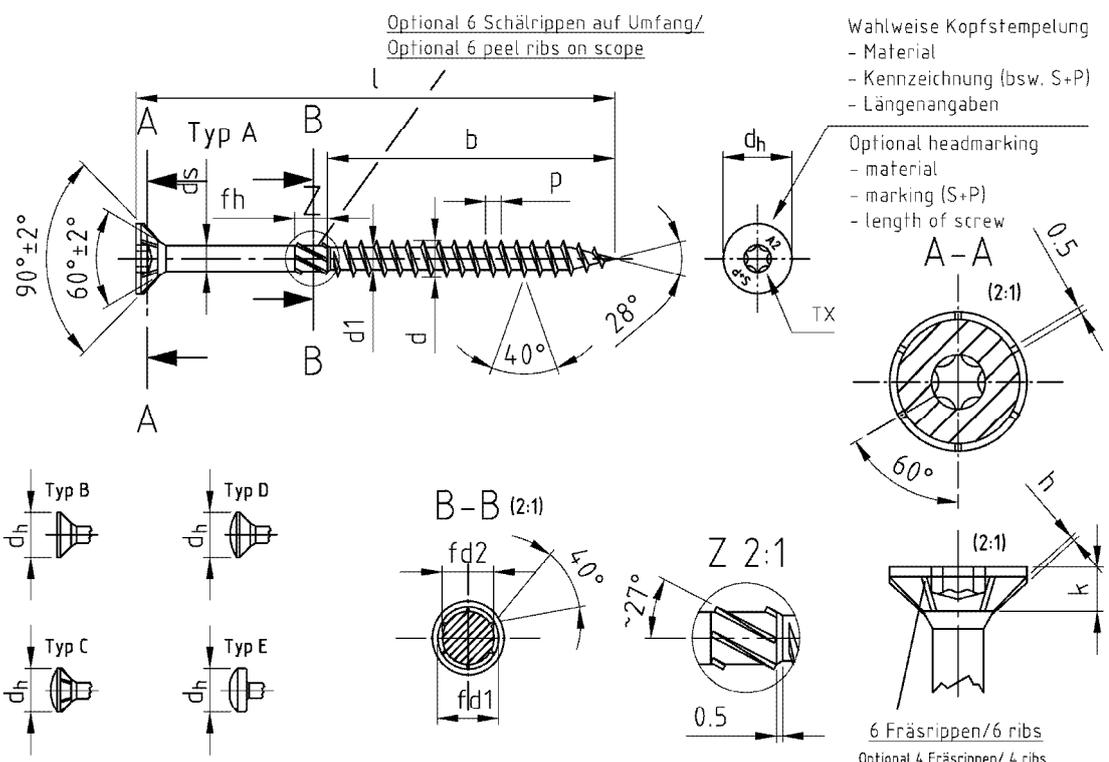
k_2 $\min \{1; \sigma_{10\%}/0.12\}$,

t_{HI} thickness of the thermal insulation material [mm],

$\sigma_{10\%}$ compressive stress of the thermal insulation material under 10 % deformation [N/mm²].

If equation (3.10) is fulfilled, the deflection of the counter battens does not need to be considered when designing the load-carrying capacity of the screws.

S+P screws	Annex 3.5
Fastening of thermal insulation material on top of rafters	

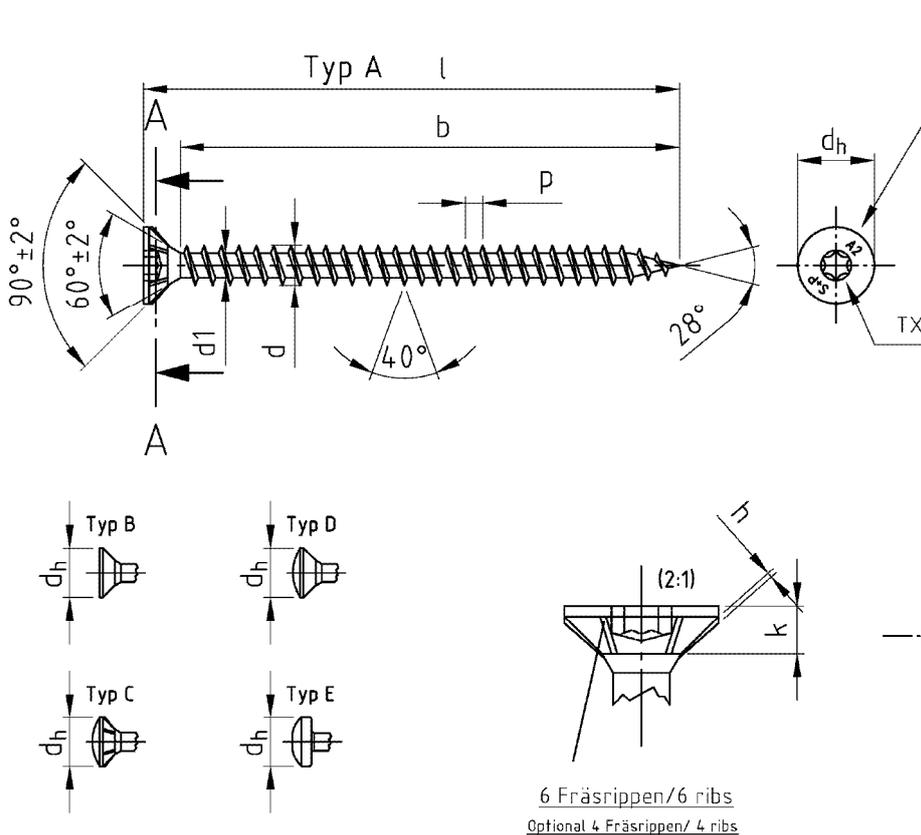


Mit fließendem Übergang vom Gewinde zum Schaft / with floating crossing between shank and thread

Bezeichnung	SP-HBS/ Seko-Holzbauschrauben mit verstärktem Kopf, 6 Fräsrippen										
Description	SP-HBS/ Double countersunk head timber screws, 6 ribs under the head										
Nennmaß/ Nominal dia.	d	d1	d _h	d _s	k	p	pz	TX	h	fd1	fd2
∅ 3,0	3,0 -0,15	2,0 -0,15	6,0 -0,4	2,15 ±0,05	1,9 -0,3	1,35 ±10%	1	10	0,3	2,90 -0,15	1,75 -0,15
∅ 3,2	3,2 -0,15	2,1 -0,15	6,5 -0,4	2,3 ±0,05	2,0 -0,3	1,45 ±10%	1	10	0,3	3,15 -0,15	1,85 -0,15
∅ 3,5	3,5 -0,3	2,4 -0,3	7,0 -0,4	2,5 ±0,05	2,1 -0,3	1,6 ±10%	2	10/15	0,3	3,45 -0,25	2,4 -0,15
∅ 4,0	4,0 -0,3	2,6 -0,3	8,0 -0,5	2,84 ±0,05	2,5 -0,4	1,8 ±10%	2	15/20	0,5	3,70 -0,25	2,7 -0,15
∅ 4,5	4,5 -0,3	2,8 -0,3	9,0 -0,5	3,11 ±0,05	2,7 -0,4	2,0 ±10%	2	20/25	0,5	3,95 -0,25	2,9 -0,15
∅ 5,0	5,0 -0,3	3,0 -0,3	10,0 -0,5	3,54 ±0,05	3,0 -0,5	2,2 ±10%	2	20/25	0,5	4,2 -0,3	3,5 -0,15
∅ 6,0	6,0 -0,3	3,7 -0,3	12,0 -0,5	4,25 ±0,05	3,6 -0,5	2,6 ±10%	3	25/30	0,5	5,1 -0,3	4,3 -0,25
∅ 8,0	8,0 +0,2/-0,3	5,5 -0,5	15,0 -1,0	6,0 ±0,1	4,1 -0,5	3,6 ±10%	-	40	0,5	7,3 -0,3	5,75 -0,25
∅ 10,0	10,0 +0,2/-0,4	6,5 -0,5	19,0 -1,0	7,0 ±0,1	4,7 -0,5	4,6 ±10%	-	40	0,5	8,8 -0,3	6,75 -0,25

l - 1/2 IT17	20	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120-160	180-300	300-400
∅ 3,0 b ±1	12	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-
∅ 3,2 b ±1	12	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-
∅ 3,5 b ±1	12	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-
∅ 4,0 b ±1	-	18	18	24	24	30	30	36	36	42	42	48	48	-	-	-	-	-
∅ 4,5 b ±1	-	-	18	24	24	30	30	36	36	42	42	48	48	54	60	-	-	-
∅ 5,0 b ±1	-	-	20	24	24	30	30	36	36	42	42	48	48	54	60	70	-	-
∅ 6,0 b ±1	-	-	-	24	24	30	30	36	36	42	42	48	48	54	70	70	70	-
∅ 8,0 b ±1	-	-	-	-	32	37	47	50	50	50	50	50	50	60	80	80	80	80
∅ 10,0 b ±1	-	-	-	-	-	-	-	-	50	55	55	55	55	55	80	105	105	105
fh	4,0 -0,2					6,0 -0,2					12,0 -0,6							

S+P screws	Annex 4.1
SP-HBS Double countersunk head timber screw	



Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

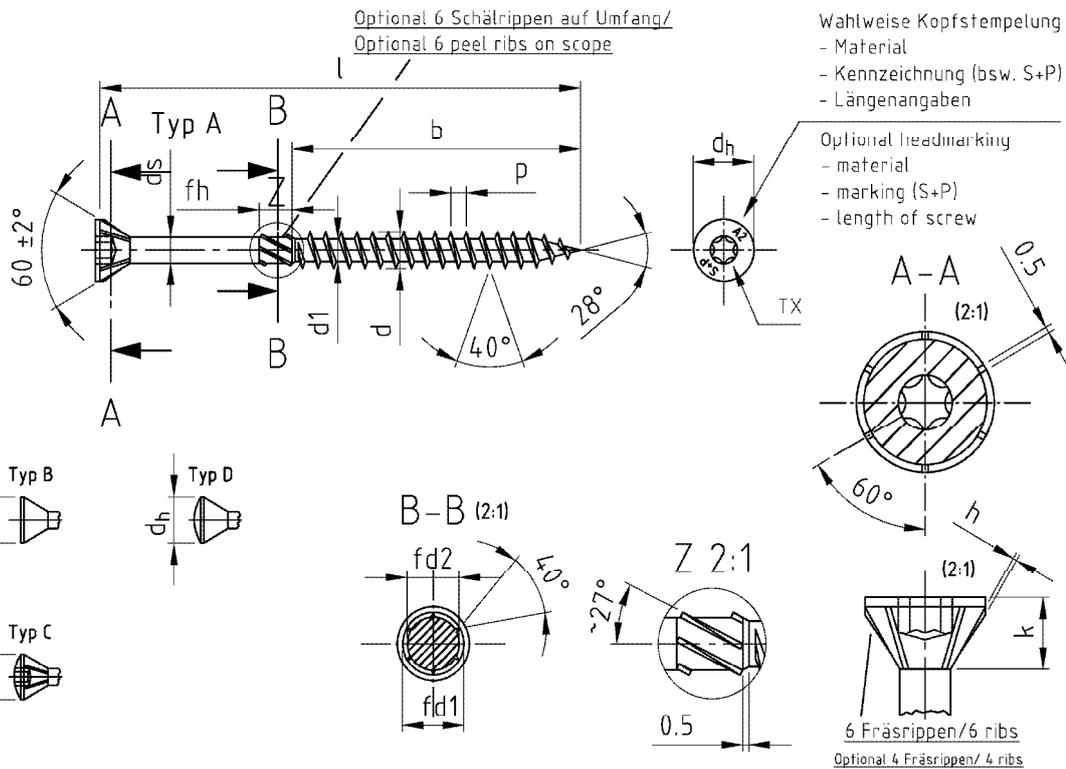
Optional headmarking
- material
- marking (S+P)
- length of screw

Bezeichnung	SP-HBS/ Seko-Holzbauschrauben mit verstärktem Kopf, 6 Fräßrippen, Vollgewinde							
Description	SP-HBS/ Double countersunk head timber screws, 6 ribs under the head, full thread							
Nennmaß/ Nominal dia.	d	d1	dh	k	p	pz	TX	h
ø 3,0	3,0 -0,15	2,0 -0,15	6,0 -0,4	1,9 -0,3	1,35 ±10%	1	10	0,3
ø 3,2	3,2 -0,15	2,1 -0,15	6,5 -0,4	2,0 -0,3	1,45 ±10%	1	10	0,3
ø 3,5	3,5 -0,3	2,4 -0,3	7,0 -0,4	2,1 -0,3	1,6 ±10%	2	10/15	0,3
ø 4,0	4,0 -0,3	2,6 -0,3	8,0 -0,5	2,5 -0,4	1,8 ±10%	2	15/20	0,5
ø 4,5	4,5 -0,3	2,8 -0,3	9,0 -0,5	2,7 -0,4	2,0 ±10%	2	20/25	0,5
ø 5,0	5,0 -0,3	3,0 -0,3	10,0 -0,5	3,0 -0,5	2,2 ±10%	2	20/25	0,5
ø 6,0	6,0 -0,3	3,7 -0,3	12,0 -0,5	3,6 -0,5	2,6 ±10%	3	25/30	0,5

Nennmaß/ Nominal dia.	ø 3,0	ø 3,2	ø 3,5	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich Lmin ≤ L ≤ Lmax sind zulässig / Others screws lengths with Lmin ≤ L ≤ max are allowed

S+P screws	Annex 4.2
SP-HBS Double countersunk head timber screw, fully threaded	



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

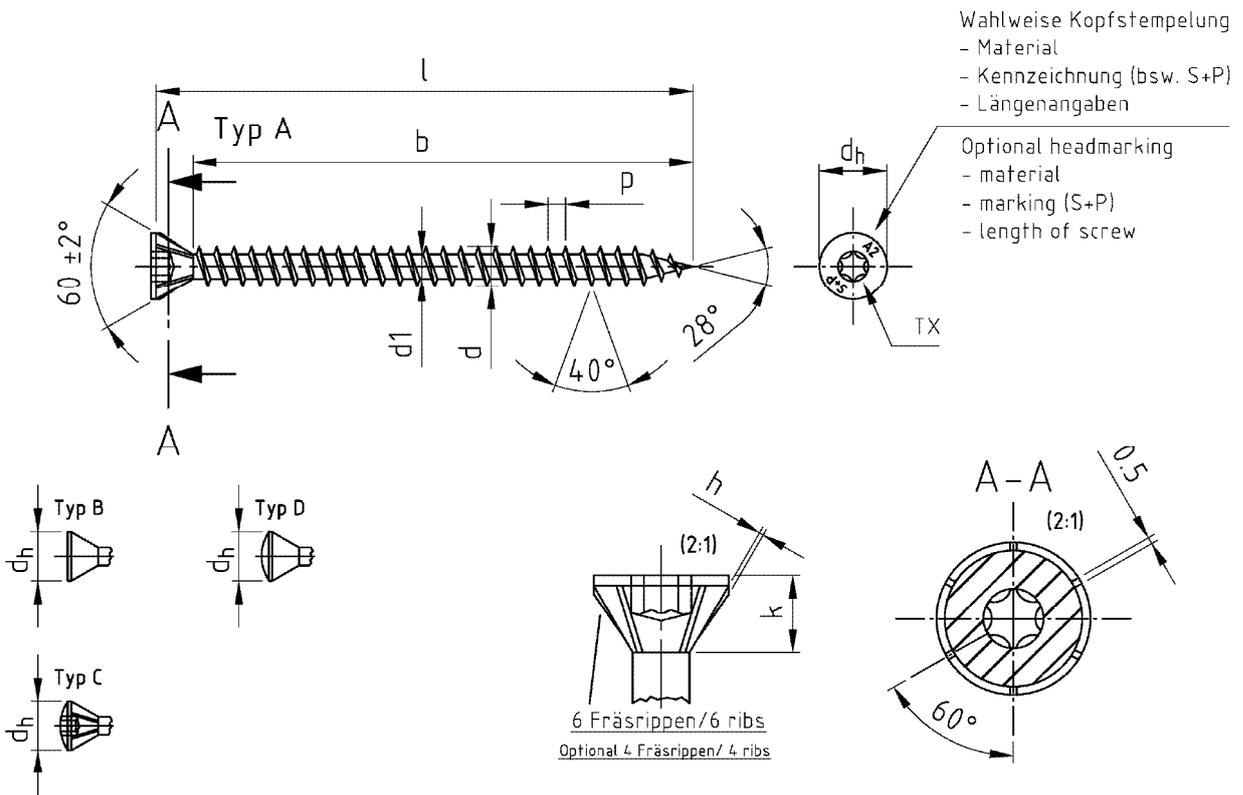
Bezeichnung	SP-HBS-60°/ Seko-Holzbauschrauben mit Innensechsrund, 6 Fräsrippen, 60° Kopf										
Description	SP-HBS-60°/ Countersunk head woodscrews, six lobe drive, 6 ribs under the head, 60° head										
Nennmaß/ Nominal dia.	d	d1	dh	ds	k	p	TX	h	fd1	fd2	
∅ 3,0	3,0 -0,15	2,0 -0,15	4,5 -0,4	2,15 ±0,05	1,8 ±0,5	1,35 ±10%	10	0,3	2,90 -0,15	1,75 -0,15	
∅ 3,2	3,2 -0,15	2,1 -0,15	5,0 -0,4	2,3 ±0,05	2,0 ±0,5	1,45 ±10%	10	0,3	3,15 -0,15	1,85 -0,15	
∅ 3,5	3,5 -0,3	2,4 -0,3	5,5 -0,4	2,5 ±0,05	2,2 ±0,5	1,6 ±10%	10	0,3	3,45 -0,25	2,4 -0,15	
∅ 4,0	4,0 -0,3	2,6 -0,3	6,0 -0,5	2,84 ±0,05	2,75 ±0,5	1,8 ±10%	15/20	0,5	3,70 -0,25	2,7 -0,15	
∅ 4,5	4,5 -0,3	2,8 -0,3	7,0 -0,5	3,11 ±0,05	3,35 ±0,5	2,0 ±10%	20/25	0,5	3,95 -0,25	2,9 -0,15	
∅ 5,0	5,0 -0,3	3,0 -0,3	7,5 -0,5	3,54 ±0,05	3,45 ±0,5	2,2 ±10%	20/25	0,5	4,2 -0,3	3,5 -0,15	
∅ 6,0	6,0 -0,3	3,7 -0,3	11,0 -0,5	4,25 ±0,05	5,85 ±0,5	2,6 ±10%	25/30	0,5	5,1 -0,3	4,3 -0,25	
∅ 8,0	8,0 +0,2/-0,3	5,5 -0,5	14,0 -1,0	6,0 ±0,1	6,95 ±0,5	3,6 ±10%	40	0,5	7,3 -0,3	5,75 -0,25	
∅ 10,0	10,0 +0,2/-0,4	6,5 -0,5	16,0 -1,0	7,0 ±0,1	7,8 ±0,5	4,6 ±10%	40	0,5	8,8 -0,3	6,75 -0,25	

l -1/2 IT17	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120-160	180-300	300-400
∅ 3,0 b ±1	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-
∅ 3,2 b ±1	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-
∅ 3,5 b ±1	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-
∅ 4,0 b ±1	18	18	24	24	30	30	36	36	42	42	48	48	-	-	-	-	-
∅ 4,5 b ±1	-	18	24	24	30	30	36	36	42	42	48	48	54	60	-	-	-
∅ 5,0 b ±1	-	20	24	24	30	30	36	36	42	42	48	48	54	60	70	-	-
∅ 6,0 b ±1	-	-	24	24	30	30	36	36	42	42	48	48	54	70	70	70	-
∅ 8,0 b ±1	-	-	-	32	37	47	50	50	50	50	50	50	60	80	80	80	80
∅ 10,0 b ±1	-	-	-	-	-	-	-	50	55	55	55	55	55	55	80	105	105
fh	4,0 -0,2			6,0 -0,2						12,0 -0,6							

S+P screws

SP-HBS-60°
 Countersunk head timber screw, 60° head

Annex 4.3

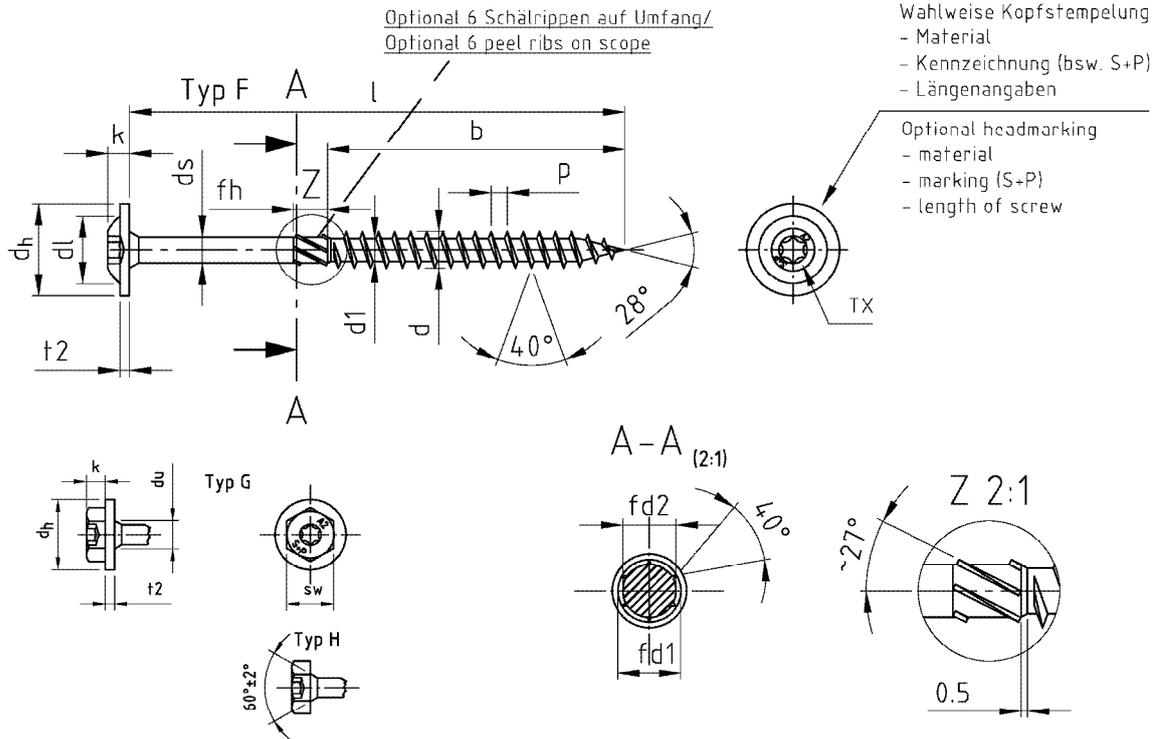


Bezeichnung	SP-HBS-60°/ Seko-Holzbauschrauben mit Innensechsrund, 6 Fräsrippen, 60° Kopf, Vollgewinde						
Description	SP-HBS-60°/ Countersunk head woodscrews, six lobe drive, 6 ribs under the head, 60° head, full thread						
Nennmaß/ Nominal dia.	d	d1	dh	k	p	TX	h
∅ 3,0	3,0 -0,15	2,0 -0,15	4,5 -0,4	1,8 ±0,5	1,35 ±10%	10	0,3
∅ 3,2	3,2 -0,15	2,1 -0,15	5,0 -0,4	2,0 ±0,5	1,45 ±10%	10	0,3
∅ 3,5	3,5 -0,3	2,4 -0,3	5,5 -0,4	2,2 ±0,5	1,6 ±10%	10	0,3
∅ 4,0	4,0 -0,3	2,6 -0,3	6,0 -0,5	2,75 ±0,5	1,8 ±10%	15/20	0,5
∅ 4,5	4,5 -0,3	2,8 -0,3	7,0 -0,5	3,35 ±0,5	2,0 ±10%	20/25	0,5
∅ 5,0	5,0 -0,3	3,0 -0,3	7,5 -0,5	3,45 ±0,5	2,2 ±10%	20/25	0,5
∅ 6,0	6,0 -0,3	3,7 -0,3	11,0 -0,5	5,85 ±0,5	2,6 ±10%	25/30	0,5

Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws	Annex 4.4
SP-HBS-60° Countersunk head timber screw, fully threaded, 60° head	



Mit fließendem Übergang vom Gewinde zum Schaft / with floating crossing between shank and thread

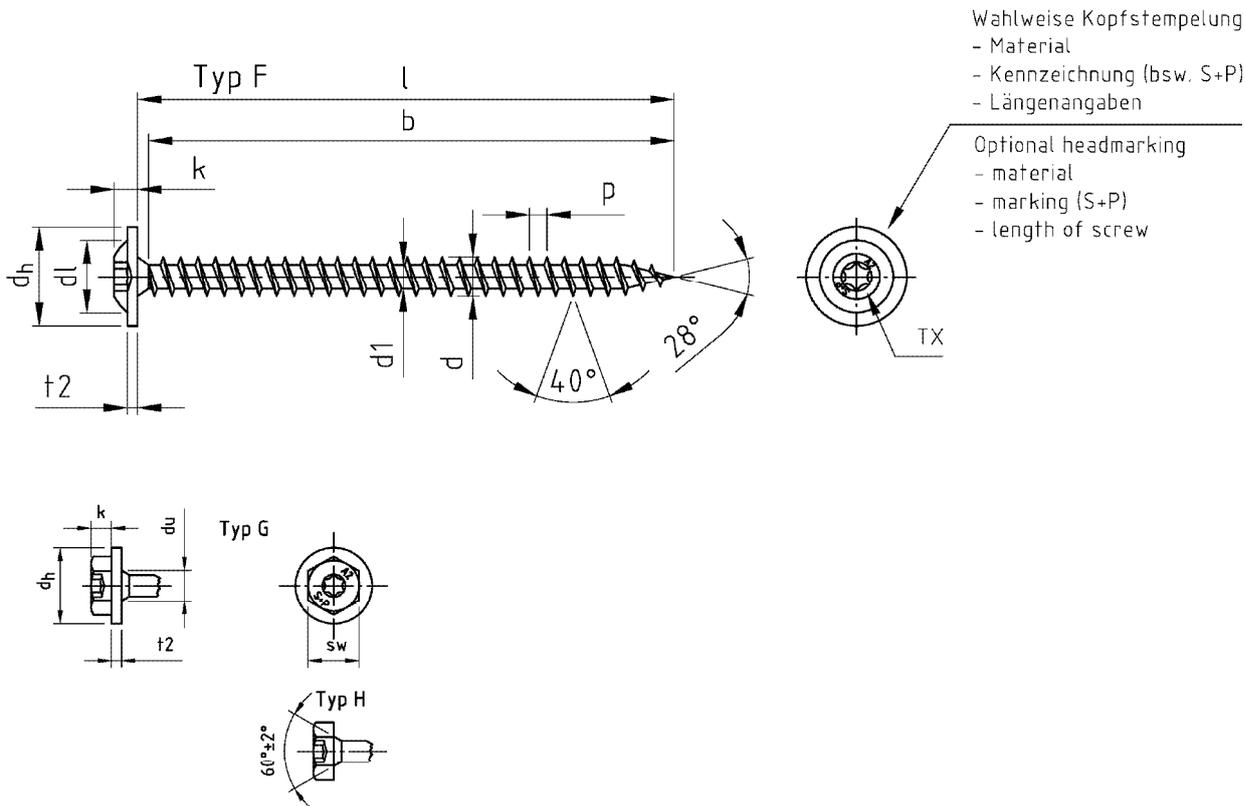
Bezeichnung	SP-HBS/ Tellerkopf-Holzbohrauschrauben mit Teilgewinde											
Description	SP-HBS/ Pan washer head timber screws with partial thread											
Nennmaß/ Nominal dia.	d	d1	dh	dl	ds	k	P	t2	TX	sw	fd1	fd2
Ø 3,0	3,0 -0,15	2,0 -0,15	9,0 ±1,0	4,5	2,15 ±0,05	2,2 ±0,4	1,35 ±10%	1,3 -0,5	10	3	2,90 -0,15	1,75 -0,15
Ø 3,2	3,2 -0,15	2,1 -0,15	10,0 ±1,0	5,0	2,3 ±0,05	2,5 ±0,4	1,45 ±10%	1,4 -0,5	10	4	3,15 -0,15	1,85 -0,15
Ø 3,5	3,5 -0,3	2,4 -0,3	11,0 ±1,0	6,0	2,5 ±0,05	2,7 ±0,4	1,6 ±10%	1,5 -0,5	10/15	5	3,45 -0,25	2,4 -0,15
Ø 4,0	4,0 -0,3	2,6 -0,3	12,0 ±1,0	7,0	2,84 ±0,05	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6	3,70 -0,25	2,7 -0,15
Ø 4,5	4,5 -0,3	2,8 -0,3	13,0 ±1,0	8,0	3,11 ±0,05	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7	3,95 -0,25	2,9 -0,15
Ø 5,0	5,0 -0,3	3,0 -0,3	14,0 ±1,0	9,0	3,54 ±0,05	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8	4,2 -0,3	3,5 -0,15
Ø 6,0	6,0 -0,3	3,7 -0,3	15,0 ±1,0	11,0	4,25 ±0,05	3,8 ±0,4	2,6 ±10%	2,0 -0,5	25/30	10	5,1 -0,3	4,3 -0,25
Ø 8,0	8,0 +0,2/-0,3	5,5 -0,5	20,0 -1,0	15,0	6,0 ±0,1	4,6 ±0,4	3,6 ±10%	2,0 -0,5	40	12	7,3 -0,3	5,75 -0,25
Ø 10,0	10,0 +0,2/-0,4	6,5 -0,5	25,0 -1,0	20,0	7,0 ±0,1	5,0 ±0,4	4,6 ±10%	2,0 -0,5	40	15	8,8 -0,3	6,75 -0,25

l - 1/2 IT17	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120-160	180-300	300-400
Ø 3,0 b ±1	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-
Ø 3,2 b ±1	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-
Ø 3,5 b ±1	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-
Ø 4,0 b ±1	18	18	24	24	30	30	36	36	42	42	-	-	-	-	-	-	-
Ø 4,5 b ±1	-	18	24	24	30	30	36	36	42	42	48	48	-	-	-	-	-
Ø 5,0 b ±1	-	20	24	24	30	30	36	36	42	42	48	48	54	60	70	-	-
Ø 6,0 b ±1	-	-	24	24	30	30	36	36	42	42	48	48	54	70	70	70	-
Ø 8,0 b ±1	-	-	-	32	37	47	50	50	50	50	50	72	80	80	80	80	80
Ø 10,0 b ±1	-	-	-	-	-	-	50	55	55	55	55	55	55	55	80	105	105
fh	4,0 -0,2				6,0 -0,2				12,0 -0,6								

S+P screws

SP-HBS
Pan washer head timber screw

Annex 4.5

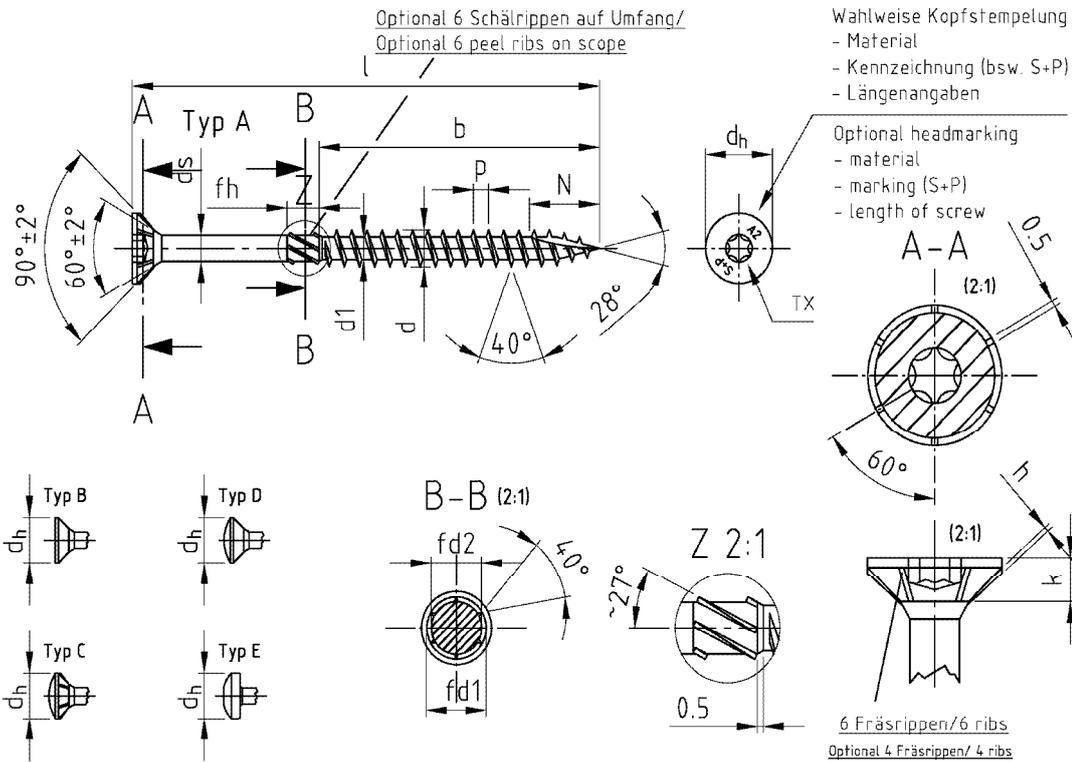


Bezeichnung	SP-HBS/ Tellerkopf-Holzschrauben mit Vollgewinde								
Description	SP-HBS/ Pan washer head timber screws with full thread								
Nennmaß/ Nominal dia.	d	d1	dh	d1	k	p	t2	TX	sw
∅ 3,0	3,0 -0,15	2,0 -0,15	9,0 ±1,0	4,5	2,2 ±0,4	1,35 ±10%	1,3 -0,5	10	3
∅ 3,2	3,2 -0,15	2,1 -0,15	10,0 ±1,0	5,0	2,5 ±0,4	1,45 ±10%	1,4 -0,5	10	4
∅ 3,5	3,5 -0,3	2,4 -0,3	11,0 ±1,0	6,0	2,7 ±0,4	1,6 ±10%	1,5 -0,5	10/15	5
∅ 4,0	4,0 -0,3	2,6 -0,3	12,0 ±1,0	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6
∅ 4,5	4,5 -0,3	2,8 -0,3	13,0 ±1,0	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7
∅ 5,0	5,0 -0,3	3,0 -0,3	14,0 ±1,0	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8
∅ 6,0	6,0 -0,3	3,7 -0,3	15,0 ±1,0	11,0	3,8 ±0,4	2,6 ±10%	2,0 -0,5	25/30	10

Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq max$ are allowed

S+P screws	Annex 4.6
SP-HBS Pan washer head timber screw, fully threaded	



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

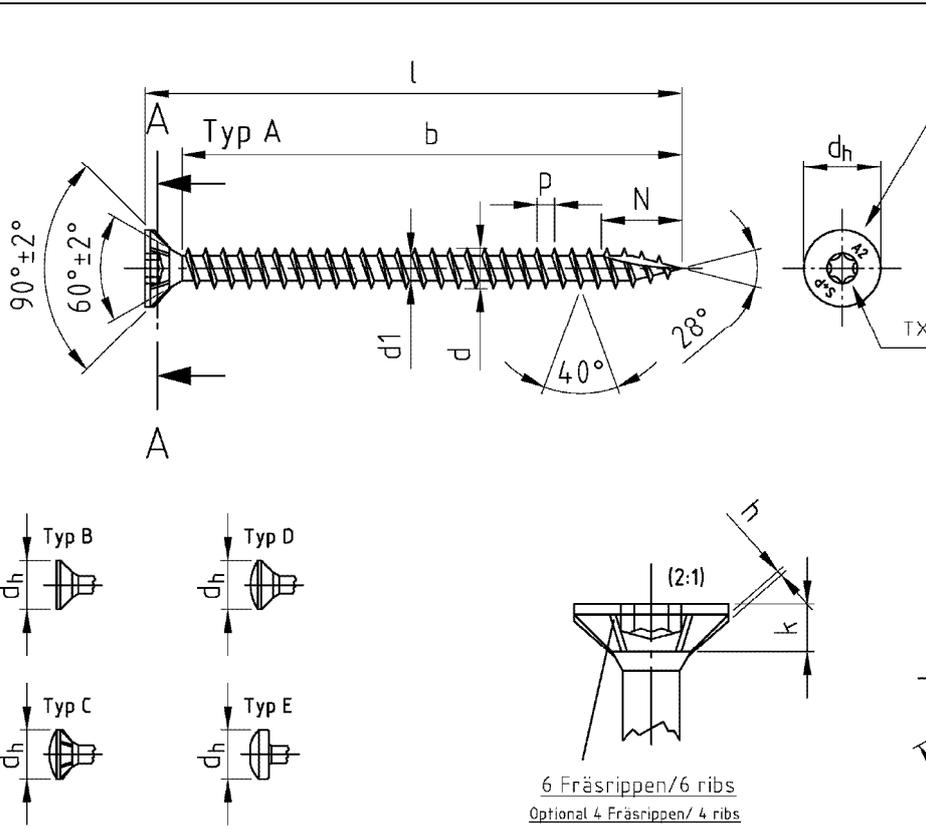
Bezeichnung	SP-HBS/ Seko-Holzbauschrauben mit verstärktem Kopf, 6 Fräsrippen, Schneidkerbe											
Description	SP-HBS/ Double countersunk head timber screws, 6 ribs under the head, cutting kerf											
Nennmaß/ Nominal dia.	d	d1	dh	ds	k	p	pz	TX	h	fd1	fd2	N
ø 3,0	3,0 -0,15	2,0 -0,15	6,0 -0,4	2,15 ±0,05	1,9 -0,3	1,35 ±10%	1	10	0,3	2,90 -0,15	1,75 -0,15	5,5 ±0,5
ø 3,2	3,2 -0,15	2,1 -0,15	6,5 -0,4	2,3 ±0,05	2,0 -0,3	1,45 ±10%	1	10	0,3	3,15 -0,15	1,85 -0,15	6,5 ±0,5
ø 3,5	3,5 -0,3	2,4 -0,3	7,0 -0,4	2,5 ±0,05	2,1 -0,3	1,6 ±10%	2	10/15	0,3	3,45 -0,25	2,4 -0,15	7,0 ±0,5
ø 4,0	4,0 -0,3	2,6 -0,3	8,0 -0,5	2,84 ±0,05	2,5 -0,4	1,8 ±10%	2	15/20	0,5	3,70 -0,25	2,7 -0,15	7,5 ±0,5
ø 4,5	4,5 -0,3	2,8 -0,3	9,0 -0,5	3,11 ±0,05	2,7 -0,4	2,0 ±10%	2	20/25	0,5	3,95 -0,25	2,9 -0,15	8,5 ±0,5
ø 5,0	5,0 -0,3	3,0 -0,3	10,0 -0,5	3,54 ±0,05	3,0 -0,5	2,2 ±10%	2	20/25	0,5	4,2 -0,3	3,5 -0,15	9,5 ±0,5
ø 6,0	6,0 -0,3	3,7 -0,3	12,0 -0,5	4,25 ±0,05	3,6 -0,5	2,6 ±10%	3	25/30	0,5	5,1 -0,3	4,3 -0,25	11,0 ±1,0
ø 8,0	8,0 +0,2/-0,3	5,5 -0,5	15,0 -1,0	6,0 ±0,1	4,1 -0,5	3,6 ±10%	-	40	0,5	7,3 -0,3	5,75 -0,25	13,0 ±1,0
ø 10,0	10,0 +0,2/-0,4	6,5 -0,5	19,0 -1,0	7,0 ±0,1	4,7 -0,5	4,6 ±10%	-	40	0,5	8,8 -0,3	6,75 -0,25	15,0 ±1,0

l -1/2 IT17	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120-160	180-300	300-400
ø 3,0 b ±1	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-
ø 3,2 b ±1	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-
ø 3,5 b ±1	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-
ø 4,0 b ±1	18	18	24	24	30	30	36	36	36	42	48	48	-	-	-	-	-
ø 4,5 b ±1	-	18	24	24	30	30	36	36	36	42	48	48	54	60	-	-	-
ø 5,0 b ±1	-	20	24	24	30	30	36	36	36	42	48	48	54	60	70	-	-
ø 6,0 b ±1	-	-	24	24	30	30	36	36	36	42	48	48	54	70	70	70	-
ø 8,0 b ±1	-	-	-	32	37	47	50	50	50	50	50	50	60	80	80	80	80
ø 10,0 b ±1	-	-	-	-	-	-	50	55	55	55	55	55	55	55	80	105	105
fh	4,0 -0,2				6,0 -0,2				12,0 -0,6								

S+P screws

SP-HBS
 Double countersunk head timber screw

Annex 4.7



Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

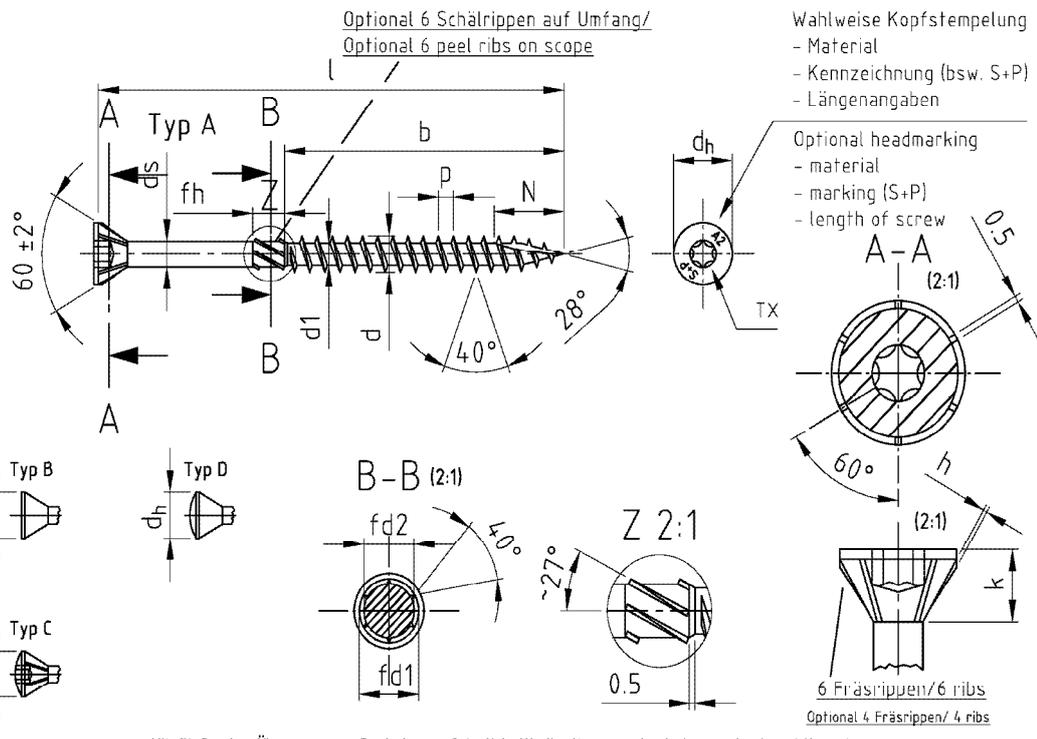
Optional headmarking
- material
- marking (S+P)
- length of screw

Bezeichnung	SP-HBS/ Seko-Holzbauschrauben mit verstärktem Kopf, 6 Fräsrippen, Schneidkerbe, Vollgewinde									
Description	SP-HBS/ Double countersank head timber screws, 6 ribs under the head, cutting point, full thread									
Nennmaß/ Nominal dia.	d	d1	dh	k	p	pz	TX	h	N	
∅ 3,0	3,0 -0,15	2,0 -0,15	6,0 -0,4	1,9 -0,3	1,35 ±10%	1	10	0,3	5,5 ±0,5	
∅ 3,2	3,2 -0,15	2,1 -0,15	6,5 -0,4	2,0 -0,3	1,45 ±10%	1	10	0,3	6,5 ±0,5	
∅ 3,5	3,5 -0,3	2,4 -0,3	7,0 -0,4	2,1 -0,3	1,6 ±10%	2	10/15	0,3	7,0 ±0,5	
∅ 4,0	4,0 -0,3	2,6 -0,3	8,0 -0,5	2,5 -0,4	1,8 ±10%	2	15/20	0,5	7,5 ±0,5	
∅ 4,5	4,5 -0,3	2,8 -0,3	9,0 -0,5	2,7 -0,4	2,0 ±10%	2	20/25	0,5	8,5 ±0,5	
∅ 5,0	5,0 -0,3	3,0 -0,3	10,0 -0,5	3,0 -0,5	2,2 ±10%	2	20/25	0,5	9,5 ±0,5	
∅ 6,0	6,0 -0,3	3,7 -0,3	12,0 -0,5	3,6 -0,5	2,6 ±10%	3	25/30	0,5	11,0 ±1,0	

Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubentlängen im Bereich $l_{min} \leq L \leq l_{max}$ sind zulässig / Others screws lengths with $l_{min} \leq L \leq l_{max}$ are allowed

S+P screws	Annex 4.8
SP-HBS Countersunk head timber screw, fully threaded	



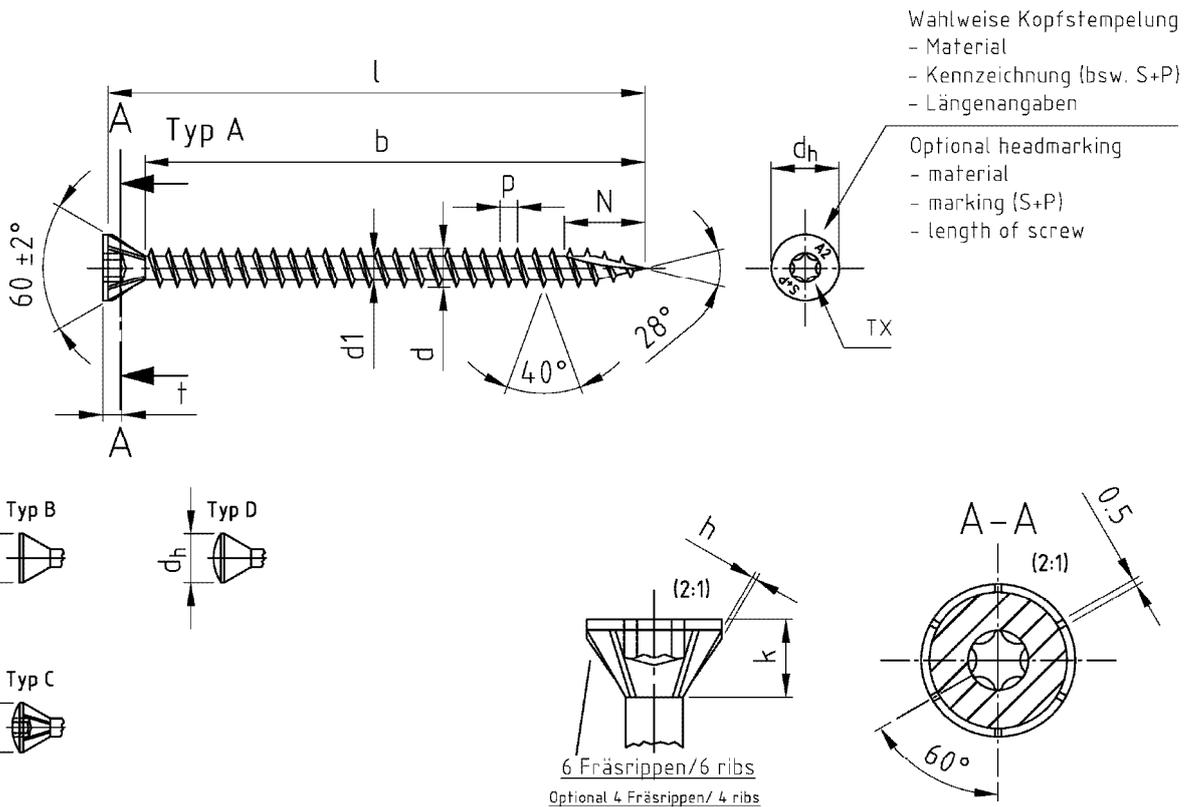
Bezeichnung	SP-HBS-60°/ Seko-Holzbauschrauben mit Innensechsrund, 6 Fräsrippen, Schneldkerbe										
Description	SP-HBS-60°/ Countersunk head woodscrews, six lobe drive, 6 ribs under the head, cutting point										
Nennmaß/ Nominal dia.	d	d1	dh	ds	k	p	TX	h	fd1	fd2	N
Ø 3,0	3,0 -0,15	2,0 -0,15	4,5 -0,4	2,15 ±0,05	1,8 ±0,5	1,35 ±10%	10	0,3	2,90 -0,15	1,75 -0,15	5,5 ±0,5
Ø 3,2	3,2 -0,15	2,1 -0,15	5,0 -0,4	2,3 ±0,05	2,0 ±0,5	1,45 ±10%	10	0,3	3,15 -0,15	1,85 -0,15	6,5 ±0,5
Ø 3,5	3,5 -0,3	2,4 -0,3	5,5 -0,4	2,5 ±0,05	2,2 ±0,5	1,6 ±10%	10	0,3	3,45 -0,25	2,4 -0,15	7,0 ±0,5
Ø 4,0	4,0 -0,3	2,6 -0,3	6,0 -0,5	2,84 ±0,05	2,75 ±0,5	1,8 ±10%	15/20	0,5	3,70 -0,25	2,7 -0,15	7,5 ±0,5
Ø 4,5	4,5 -0,3	2,8 -0,3	7,0 -0,5	3,11 ±0,05	3,35 ±0,5	2,0 ±10%	20/25	0,5	3,95 -0,25	2,9 -0,15	8,5 ±0,5
Ø 5,0	5,0 -0,3	3,0 -0,3	7,5 -0,5	3,54 ±0,05	3,45 ±0,5	2,2 ±10%	20/25	0,5	4,2 -0,3	3,5 -0,15	9,5 ±0,5
Ø 6,0	6,0 -0,3	3,7 -0,3	11,0 -0,5	4,25 ±0,05	5,85 ±0,5	2,6 ±10%	25/30	0,5	5,1 -0,3	4,3 -0,25	11,0 ±1,0
Ø 8,0	8,0 +0,2/-0,3	5,5 -0,5	14,0 -1,0	6,0 ±0,1	6,95 ±0,5	3,6 ±10%	40	0,5	7,3 -0,3	5,75 -0,25	13,0 ±1,0
Ø 10,0	10,0 +0,2/-0,4	6,5 -0,5	16,0 -1,0	7,0 ±0,1	7,8 ±0,5	4,6 ±10%	40	0,5	8,8 -0,3	6,75 -0,25	15,0 ±1,0

l - 1/2 IT17	25	30	35	40	45	50	55	60	65	70	75	80	90	100	110-160	180-300	300-400	
Ø 3,0 b ±1	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-	
Ø 3,2 b ±1	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-	
Ø 3,5 b ±1	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-	
Ø 4,0 b ±1	18	18	24	24	30	30	36	36	36	42	48	48	-	-	-	-	-	
Ø 4,5 b ±1	-	18	24	24	30	30	36	36	36	42	48	48	54	60	-	-	-	
Ø 5,0 b ±1	-	20	24	24	30	30	36	36	36	42	48	48	54	60	70	-	-	
Ø 6,0 b ±1	-	-	24	24	30	30	36	36	36	42	48	48	54	70	70	70	-	
Ø 8,0 b ±1	-	-	-	32	37	47	50	50	50	50	50	50	60	80	80	80	80	
Ø 10,0 b ±1	-	-	-	-	-	-	50	55	55	55	55	55	55	55	80	105	105	
fh	4,0 -0,2					6,0 -0,2					12,0 -6,0							

S+P screws

SP-HBS-60°
Countersunk head timber screw, 60° head

Annex 4.9



Bezeichnung	SP-HBS-60°/ Seko-Holzbauschrauben mit Innensechsrund, 6 Fräsrippen, Schneidkerbe, Vollgewinde							
Description	SP-HBS-60°/ Countersunk head woodscrews, six lobe drive, 6 ribs under the head, cutting point, full thread							
Nennmaß/ Nominal dia.	d	d1	dh	k	p	TX	h	N
∅ 3,0	3,0 -0,15	2,0 -0,15	4,5 -0,4	1,8 ±0,5	1,35 ±10%	10	0,3	5,5 ±0,5
∅ 3,2	3,2 -0,15	2,1 -0,15	5,0 -0,4	2,0 ±0,5	1,45 ±10%	10	0,3	6,5 ±0,5
∅ 3,5	3,5 -0,3	2,4 -0,3	5,5 -0,4	2,2 ±0,5	1,6 ±10%	10	0,3	7,0 ±0,5
∅ 4,0	4,0 -0,3	2,6 -0,3	6,0 -0,5	2,75 ±0,5	1,8 ±10%	15/20	0,5	7,5 ±0,5
∅ 4,5	4,5 -0,3	2,8 -0,3	7,0 -0,5	3,35 ±0,5	2,0 ±10%	20/25	0,5	8,5 ±0,5
∅ 5,0	5,0 -0,3	3,0 -0,3	7,5 -0,5	3,45 ±0,5	2,2 ±10%	20/25	0,5	9,5 ±0,5
∅ 6,0	6,0 -0,3	3,7 -0,3	11,0 -0,5	5,85 ±0,5	2,6 ±10%	25/30	0,5	11,0 ±1,0

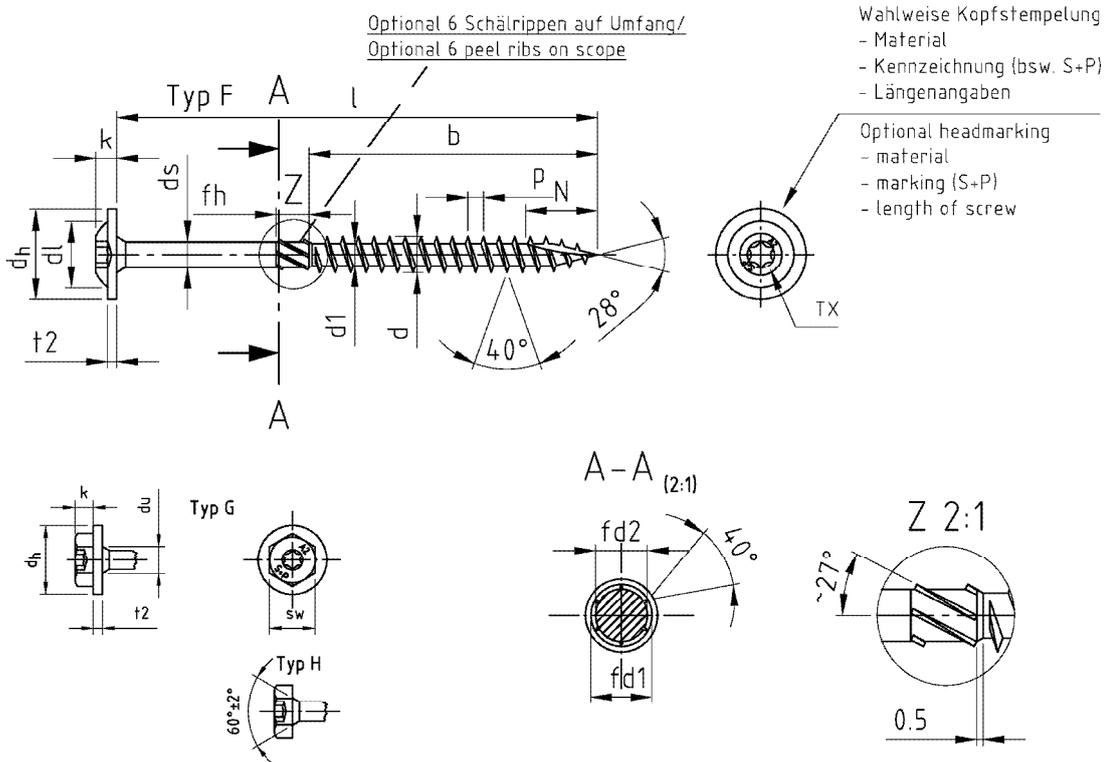
Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq max$ are allowed

S+P screws

SP-HBS-60°
Countersunk head timber screw, fully threaded, 60° head

Annex 4.10



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

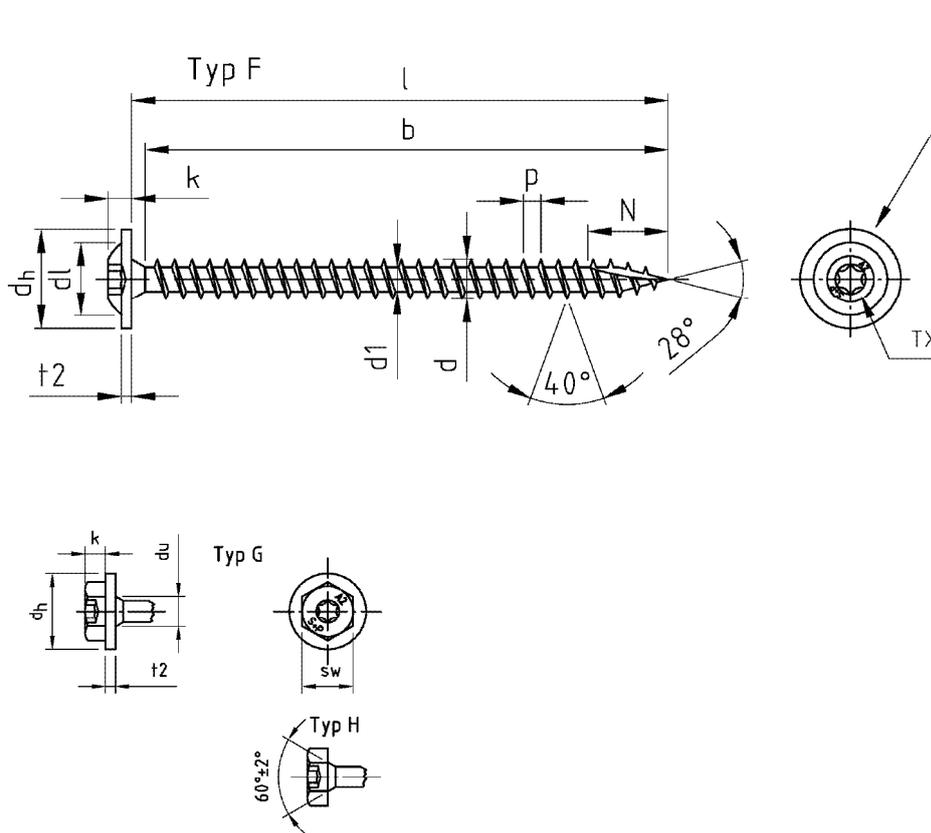
Bezeichnung	SP-HBS/ Tellerkopf-Holzbauschrauben mit Schnitdkerbe												
Description	SP-HBS/ Pan washer head timber screws with cutting point												
Nennmaß/ Nominal dia.	d	d1	dh	dI	ds	k	p	t2	TX	sw	fd1	fd2	N
# 3,0	3,0 -0,15	2,0 -0,15	9,0 ±1,0	4,5	2,15 ±0,05	2,2 ±0,4	1,38 ±10%	1,3 -0,5	10	3	2,90 -0,15	1,75 -0,15	5,5 ±0,5
# 3,2	3,2 -0,15	2,1 -0,15	10,0 ±1,0	5,0	2,3 ±0,05	2,5 ±0,4	1,45 ±10%	1,4 -0,5	10	4	3,15 -0,15	1,85 -0,15	6,5 ±0,5
# 3,5	3,5 -0,3	2,4 -0,3	11,0 ±1,0	6,0	2,5 ±0,05	2,7 ±0,4	1,6 ±10%	1,5 -0,5	10/15	5	3,45 -0,25	2,4 -0,15	7,0 ±0,5
# 4,0	4,0 -0,3	2,6 -0,3	12,0 ±1,0	7,0	2,84 ±0,05	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6	3,70 -0,25	2,7 -0,15	7,5 ±0,5
# 4,5	4,5 -0,3	2,8 -0,3	13,0 ±1,0	8,0	3,11 ±0,05	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7	3,95 -0,25	2,9 -0,15	8,5 ±0,5
# 5,0	5,0 -0,3	3,0 -0,3	14,0 ±1,0	9,0	3,54 ±0,05	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8	4,2 -0,3	3,5 -0,15	9,5 ±0,5
# 6,0	6,0 -0,3	3,7 -0,3	15,0 ±1,0	11,0	4,25 ±0,05	3,8 ±0,4	2,6 ±10%	2,0 -0,5	25/30	10	5,1 -0,3	4,3 -0,25	11,0 ±1
# 8,0	8,0 +0,2/-0,3	5,5 -0,5	20,0 -1,0	15,0	6,0 ±0,1	4,6 ±0,4	3,6 ±10%	2,0 -0,5	40	12	7,3 -0,3	5,75 -0,25	13,0 ±1
# 10,0	10,0 +0,2/-0,4	8,5 -0,5	25,0 -1,0	20,0	7,0 ±0,1	5,0 ±0,4	4,6 ±10%	2,0 -0,5	40	15	8,8 -0,3	6,75 -0,25	15,0 ±1

l	1-1/2	1717	10	12	16	20	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120-160	180-300	300-400
# 3,0 b ±1	-	-	-	-	18	18	24	24	30	30	-	-	-	-	-	-	-	-	-	-	-	-	-
# 3,2 b ±1	-	-	-	-	18	18	24	24	30	30	36	36	-	-	-	-	-	-	-	-	-	-	-
# 3,5 b ±1	-	-	-	-	18	18	24	24	30	30	36	-	-	-	-	-	-	-	-	-	-	-	-
# 4,0 b ±1	-	-	-	-	18	18	24	24	30	30	36	36	36	42	-	-	-	-	-	-	-	-	-
# 4,5 b ±1	-	-	-	-	18	18	24	24	30	30	36	36	36	42	48	48	-	-	-	-	-	-	-
# 5,0 b ±1	-	-	-	-	20	24	24	30	30	36	36	36	42	48	48	54	60	70	-	-	-	-	-
# 6,0 b ±1	-	-	-	-	24	24	30	30	36	36	36	42	48	48	54	70	70	70	-	-	-	-	-
# 8,0 b ±1	-	-	-	-	-	-	32	37	47	50	50	50	50	50	72	80	80	80	80	-	-	-	-
# 10,0 b ±1	-	-	-	-	-	-	-	-	-	-	50	55	55	55	55	55	55	80	105	105	-	-	-
fh					4,0 -0,2				6,0 -0,2				12,0 -0,5										

S+P screws

SP-HBS
Pan washer head timber screw

Annex 4.11



Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

Optional headmarking
 - material
 - marking (S+P)
 - length of screw

Bezeichnung	SP-HBS/ Tellerkopf-Holzbauschrauben mit Schneldkerbe, Vollgewinde									
Description	SP-HBS/ Pan washer head timber screws with cutting point, full thread									
Nennmaß/ Nominal dia.	d	d1	dh	d1	k	p	t2	TX	sw	N
ø 3,0	3,0 -0,15	2,0 -0,15	9,0 ±1,0	4,5	2,2 ±0,4	1,35 ±10%	1,3 -0,5	10	3	5,5 ±0,5
ø 3,2	3,2 -0,15	2,1 -0,15	10,0 ±1,0	5,0	2,5 ±0,4	1,45 ±10%	1,4 -0,5	10	4	6,5 ±0,5
ø 3,5	3,5 -0,3	2,4 -0,3	11,0 ±1,0	6,0	2,7 ±0,4	1,6 ±10%	1,5 -0,5	10/15	5	7,0 ±0,5
ø 4,0	4,0 -0,3	2,6 -0,3	12,0 ±1,0	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6	7,5 ±0,5
ø 4,5	4,5 -0,3	2,8 -0,3	13,0 ±1,0	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7	8,5 ±0,5
ø 5,0	5,0 -0,3	3,0 -0,3	14,0 ±1,0	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8	9,5 ±0,5
ø 6,0	6,0 -0,3	3,7 -0,3	15,0 ±1,0	11,0	3,8 ±0,4	2,6 ±10%	2,0 -0,5	25/30	10	11,0 ±1

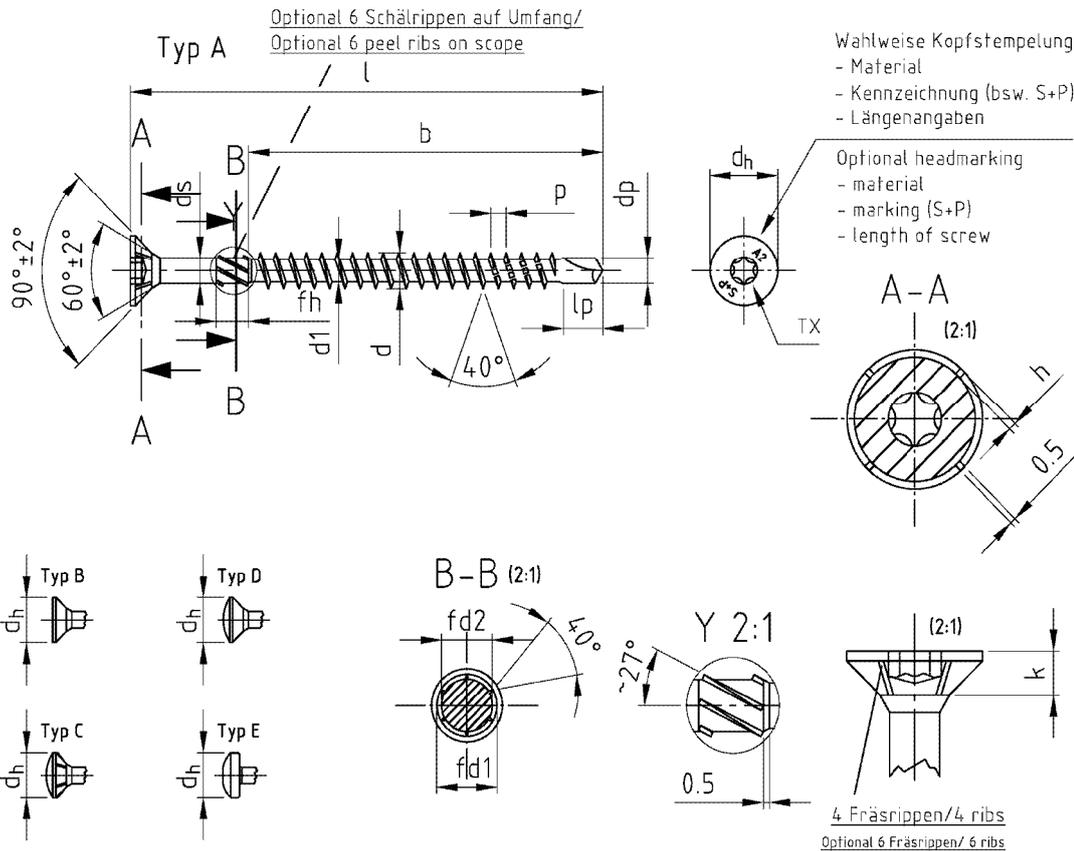
Nennmaß/ Nominal dia.	ø 3,0	ø 3,2	ø 3,5	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-HBS
 Pan washer head timber screw, fully threaded

Annex 4.12



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

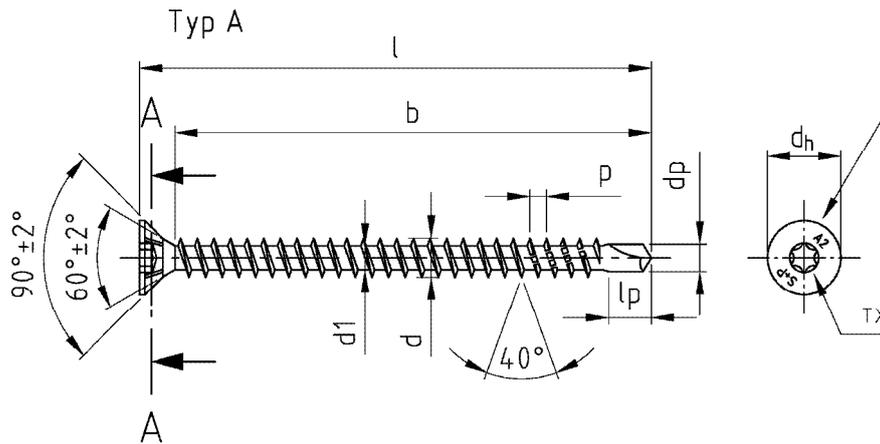
Bezeichnung	SP-Drill/ Seko-Holzbauschrauben mit Bohrspitze												
Description	SP-Drill/ CSK head timber screws drilling-point												
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	k	p	lp	TX	h	fd1	fd2	
Ø 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	6,0 -0,4	2,15 ±0,05	1,9 -0,3	1,35 ±10%	3,0	10	0,3	2,80 -0,15	1,75 -0,15	
Ø 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	6,5 -0,4	2,3 ±0,05	2,0 -0,3	1,45 ±10%	3,1	10	0,3	3,15 -0,15	1,85 -0,15	
Ø 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	7,0 -0,4	2,5 ±0,05	2,1 -0,3	1,6 ±10%	3,5	10/15	0,3	3,45 -0,25	2,4 -0,15	
Ø 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	8,0 -0,5	2,84 ±0,05	2,5 -0,4	1,8 ±10%	3,7	15/20	0,5	3,70 -0,25	2,7 -0,15	
Ø 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	9,0 -0,5	3,11 ±0,05	2,7 -0,4	2,0 ±10%	4,7	20/25	0,5	3,95 -0,25	2,9 -0,15	
Ø 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	10,0 -0,5	3,54 ±0,05	3,0 -0,5	2,2 ±10%	5,2	20/25	0,5	4,2 -0,3	3,5 -0,15	
Ø 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	12,0 -0,5	4,25 ±0,05	3,6 -0,5	2,6 ±10%	5,8	25/30	0,5	5,1 -0,3	4,3 -0,25	

l -1/2 IT17	30	35	40	45	50	55	60	65	70	75	80	90	100	120-200	
Ø 3,0 b ±1	18	24	24	30	30	-	-	-	-	-	-	-	-	-	
Ø 3,2 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-	
Ø 3,5 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-	
Ø 4,0 b ±1	18	24	24	30	30	36	36	42	42	48	54	54	60	70	
Ø 4,5 b ±1	18	24	24	30	30	36	36	42	42	48	54	54	60	70	
Ø 5,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70	
Ø 6,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70	
fh	4,0 -0,2			6,0 -0,2						12,0 -0,6					

S+P screws

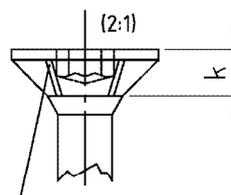
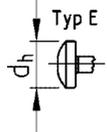
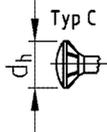
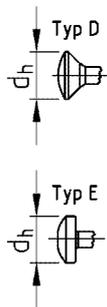
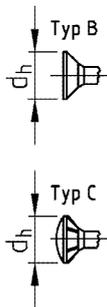
SP-Drill
CSK head timber screw with drilling point

Annex 4.13

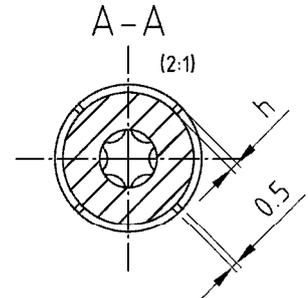


Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

Optional headmarking
 - material
 - marking (S+P)
 - length of screw



4 Fräsrippen/4 ribs
 Optional 6 Fräsrippen/ 6 ribs



Bezeichnung	SP-Drill/ Seko-Holzbauschrauben mit Bohrspitze, Vollgewinde								
Description	SP-Drill/ CSK head timber screws drilling-point, full thread								
Nennmaß/ Nominal dia.	d	d1	dp	dh	k	p	lp	TX	h
∅ 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	6,0 -0,4	1,9 -0,3	1,35 ±10%	3,0	10	0,3
∅ 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	6,5 -0,4	2,0 -0,3	1,45 ±10%	3,1	10	0,3
∅ 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	7,0 -0,4	2,1 -0,3	1,6 ±10%	3,5	10/15	0,3
∅ 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	8,0 -0,5	2,5 -0,4	1,8 ±10%	3,7	15/20	0,5
∅ 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	9,0 -0,5	2,7 -0,4	2,0 ±10%	4,7	20/25	0,5
∅ 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	10,0 -0,5	3,0 -0,5	2,2 ±10%	5,2	20/25	0,5
∅ 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	12,0 -0,5	3,6 -0,5	2,6 ±10%	5,8	25/30	0,5

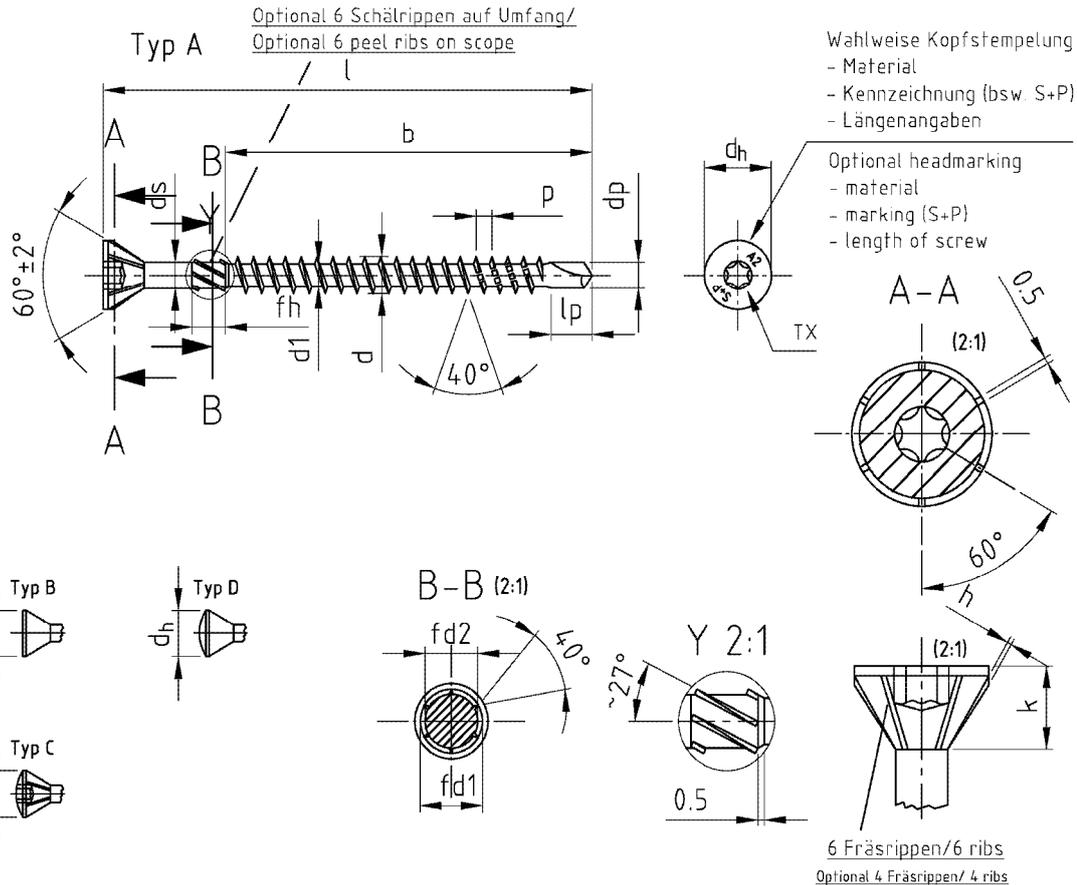
Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Drill
 CSK head timber screw with drilling point, fully threaded

Annex 4.14



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

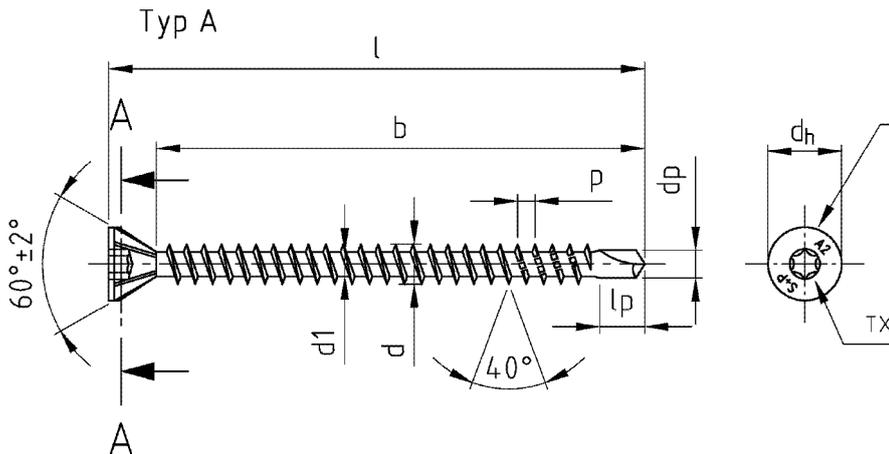
Bezeichnung	SP-Drill-60°/ Seko-Holzschrauben mit Bohrspitze, 60° Kopf											
Description	SP-Drill-60°/ CSK head timber screws drilling-point, 60° Kopf											
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	k	p	lp	TX	h	fd1	fd2
Ø 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	4,5 ±0,5	2,15 ±0,05	1,8 ±0,5	1,35 ±10%	3,0	10	0,3	2,90 -0,15	1,75 -0,15
Ø 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	5,0 ±0,5	2,3 ±0,05	2,0 ±0,5	1,45 ±10%	3,1	10	0,3	3,15 -0,15	1,85 -0,15
Ø 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	5,5 ±0,5	2,5 ±0,05	2,2 ±0,5	1,6 ±10%	3,5	10	0,3	3,45 -0,25	2,4 -0,15
Ø 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	6,0 ±0,5	2,84 ±0,05	2,75 ±0,5	1,8 ±10%	3,7	15/20	0,5	3,70 -0,25	2,7 -0,15
Ø 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	7,0 ±0,5	3,11 ±0,05	3,35 ±0,5	2,0 ±10%	4,7	20/25	0,5	3,95 -0,25	2,9 -0,15
Ø 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	7,5 ±0,5	3,54 ±0,05	3,45 ±0,5	2,2 ±10%	5,2	20/25	0,5	4,2 -0,3	3,5 -0,15
Ø 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	11,0 ±0,5	4,25 ±0,05	5,85 ±0,5	2,6 ±10%	5,8	25/30	0,5	5,1 -0,3	4,3 -0,25

l -1/2 IT17	30	35	40	45	50	55	60	65	70	75	80	90	100	120-200	
Ø 3,0 b ±1	18	24	24	30	30	-	-	-	-	-	-	-	-	-	
Ø 3,2 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-	
Ø 3,5 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-	
Ø 4,0 b ±1	18	24	24	30	30	36	36	42	42	48	54	-	-	-	
Ø 4,5 b ±1	18	24	24	30	30	36	36	42	42	48	54	54	60	70	
Ø 5,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70	
Ø 6,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70	
fh	4,0 -0,2			6,0 -0,2						12,0 -0,6					

S+P screws

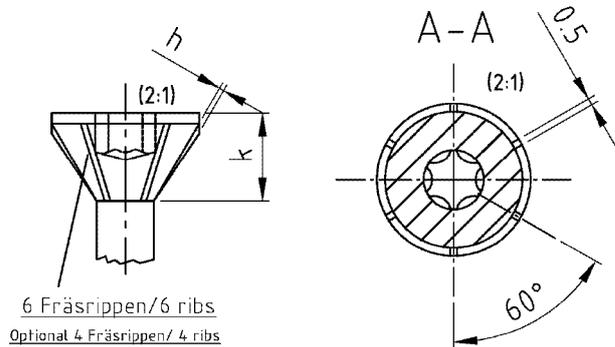
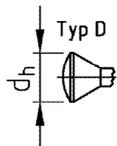
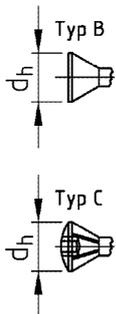
SP-Drill-60°
CSK head timber screw with drilling point, 60° head

Annex 4.15



Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw



Bezeichnung	SP-Drill-60°/ Seko-Holzbauschrauben mit Bohrspitze, 60° Kopf, Vollgewinde									
Description	SP-Drill-60°/ CSK head timber screws drilling-point, 60° Kopf, full thread									
Nennmaß/ Nominal dia.	d	d1	dp	dh	k	p	lp	TX	h	
∅ 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	4,5 ±0,5	1,8 ±0,5	1,35 ±10%	3,0	10	0,3	
∅ 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	5,0 ±0,5	2,0 ±0,5	1,45 ±10%	3,1	10	0,3	
∅ 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	5,5 ±0,5	2,2 ±0,5	1,6 ±10%	3,5	10	0,3	
∅ 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	6,0 ±0,5	2,75 ±0,5	1,8 ±10%	3,7	15/20	0,5	
∅ 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	7,0 ±0,5	3,35 ±0,5	2,0 ±10%	4,7	20/25	0,5	
∅ 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	7,5 ±0,5	3,45 ±0,5	2,2 ±10%	5,2	20/25	0,5	
∅ 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	11,0 ±0,5	5,85 ±0,5	2,6 ±10%	5,8	25/30	0,5	

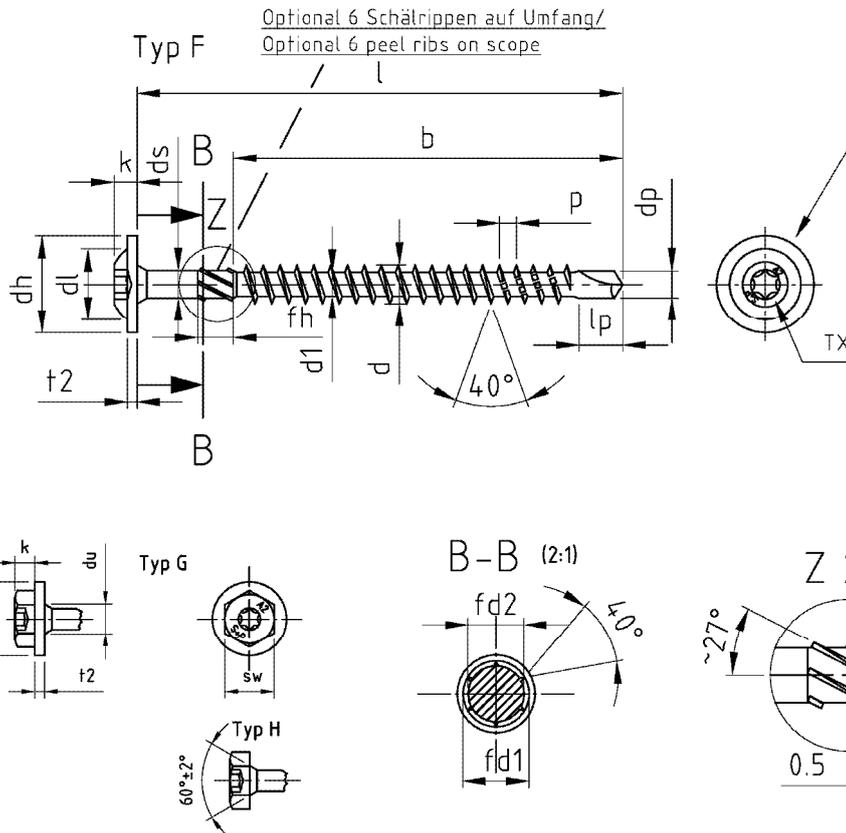
Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Drill-60°
CSK head timber screw, 60° head with drilling point, fully threaded

Annex 4.16



Optional 6 Schälrippen auf Umfang/
Optional 6 peel ribs on scope

Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw

Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

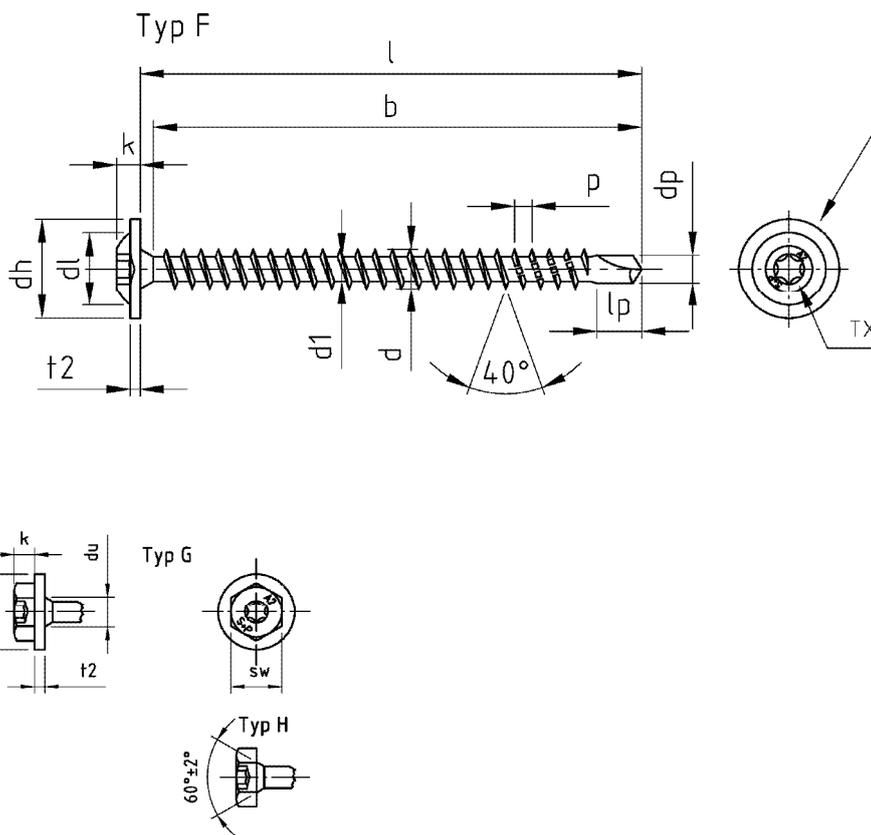
Bezeichnung	SP-Drill/ Tellerkopf-Holzbauschrauben mit Teilgewinde und Bohrspitze														
Description	SP-Drill/ Pan washer head timber screws with partial thread and drilling point														
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	dl	k	p	t2	lp	TX	sw	fd1	fd2	
ø 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	9,0 ±1,0	2,15 ±0,05	4,5	2,2 ±0,4	1,35 ±10%	1,3 -0,5	3,0	10	3	2,90 -0,15	1,75 -0,15	
ø 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	10,0 ±1,0	2,3 ±0,05	5,0	2,5 ±0,4	1,45 ±10%	1,4 -0,5	3,1	10	4	3,15 -0,15	1,85 -0,15	
ø 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	11,0 ±1,0	2,5 ±0,05	6,0	2,7 ±0,4	1,8 ±10%	1,5 -0,5	3,5	10/15	5	3,45 -0,25	2,4 -0,15	
ø 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	12,0 ±1,0	2,84 ±0,05	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	3,7	15/20	6	3,70 -0,25	2,7 -0,15	
ø 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	13,0 ±1,0	3,11 ±0,05	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	4,7	20/25	7	3,95 -0,25	2,9 -0,15	
ø 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	14,0 ±1,0	3,54 ±0,05	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	5,2	20/25	8	4,2 -0,3	3,5 -0,15	
ø 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	15,0 ±1,0	4,25 ±0,05	11,0	3,8 ±0,4	2,6 ±10%	2,0 -0,5	5,8	25/30	10	5,1 -0,3	4,3 -0,25	

I -1/2 IT17	30	35	40	45	50	55	60	65	70	75	80	90	100	120-200
ø 3,0 b ±1	18	24	24	30	30	-	-	-	-	-	-	-	-	-
ø 3,2 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-
ø 3,5 b ±1	18	24	24	30	30	36	36	-	-	-	-	-	-	-
ø 4,0 b ±1	18	24	24	30	30	36	36	42	42	48	54	54	60	70
ø 4,5 b ±1	18	24	24	30	30	36	36	42	42	48	54	54	60	70
ø 5,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70
ø 6,0 b ±1	-	24	24	30	30	36	36	42	42	48	54	54	60	70
fh	4,0 -0,2				6,0 -0,2				12,0 -0,6					

S+P screws

SP-Drill
Pan washer head timber screw with drilling point

Annex 4.17



Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw

Bezeichnung	SP-Drill/ Tellerkopf-Holzbauschrauben Bohrspitze, Vollgewinde										
Description	SP-Drill/ Pan washer head timber screws with drilling point, full thread										
Nennmaß/ Nominal dia.	d	d1	dp	dh	dl	k	p	t2	lp	TX	sw
∅ 3,0	3,0 -0,15	2,0 -0,15	2,3 -0,1	9,0 ±1,0	4,5	2,2 ±0,4	1,35 ±10%	1,3 -0,5	3,0	10	3
∅ 3,2	3,2 -0,15	2,1 -0,15	2,4 -0,4	10,0 ±1,0	5,0	2,5 ±0,4	1,45 ±10%	1,4 -0,5	3,1	10	4
∅ 3,5	3,5 -0,3	2,4 -0,3	2,8 -0,5	11,0 ±1,0	6,0	2,7 ±0,4	1,6 ±10%	1,5 -0,5	3,5	10/15	5
∅ 4,0	4,0 -0,3	2,6 -0,3	3,0 -0,5	12,0 ±1,0	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	3,7	15/20	6
∅ 4,5	4,5 -0,3	2,8 -0,3	3,3 -0,5	13,0 ±1,0	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	4,7	20/25	7
∅ 5,0	5,0 -0,3	3,0 -0,3	3,6 -0,5	14,0 ±1,0	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	5,2	20/25	8
∅ 6,0	6,0 -0,3	3,7 -0,3	4,4 -0,6	15,0 ±1,0	11,0	3,8 ±0,4	2,6 ±10%	2,0 -0,5	5,8	25/30	10

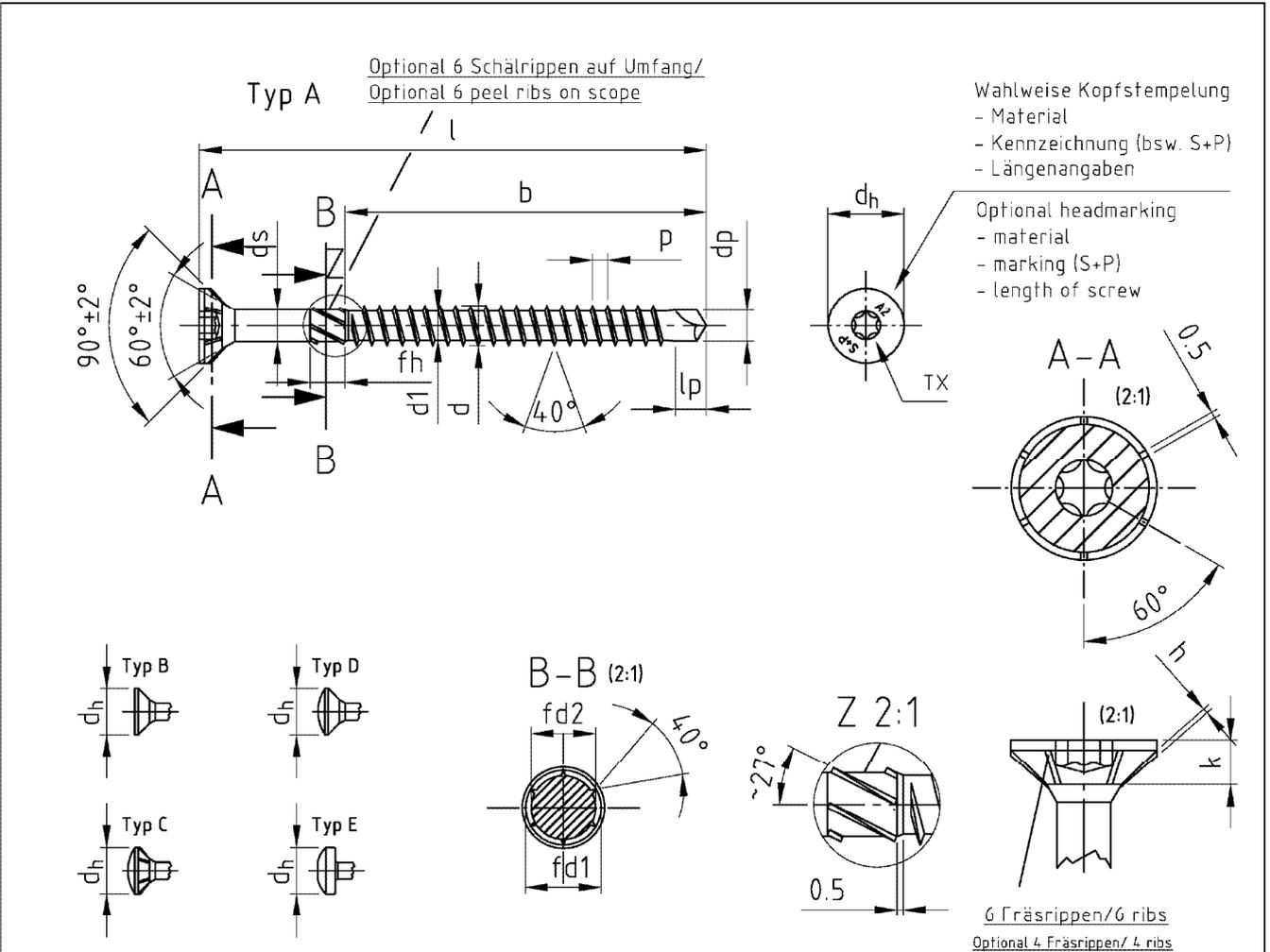
Nennmaß/ Nominal dia.	∅ 3,0	∅ 3,2	∅ 3,5	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	18	19	19	23	23	28	36
l max. ±1	45	40	50	80	100	100	110
b ±1	min. /+ k	16	16	16	20	25	30
	max. /+ k	40	36	45	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Drill
Pan washer head timber screw with drilling point, fully threaded

Annex 4.18



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

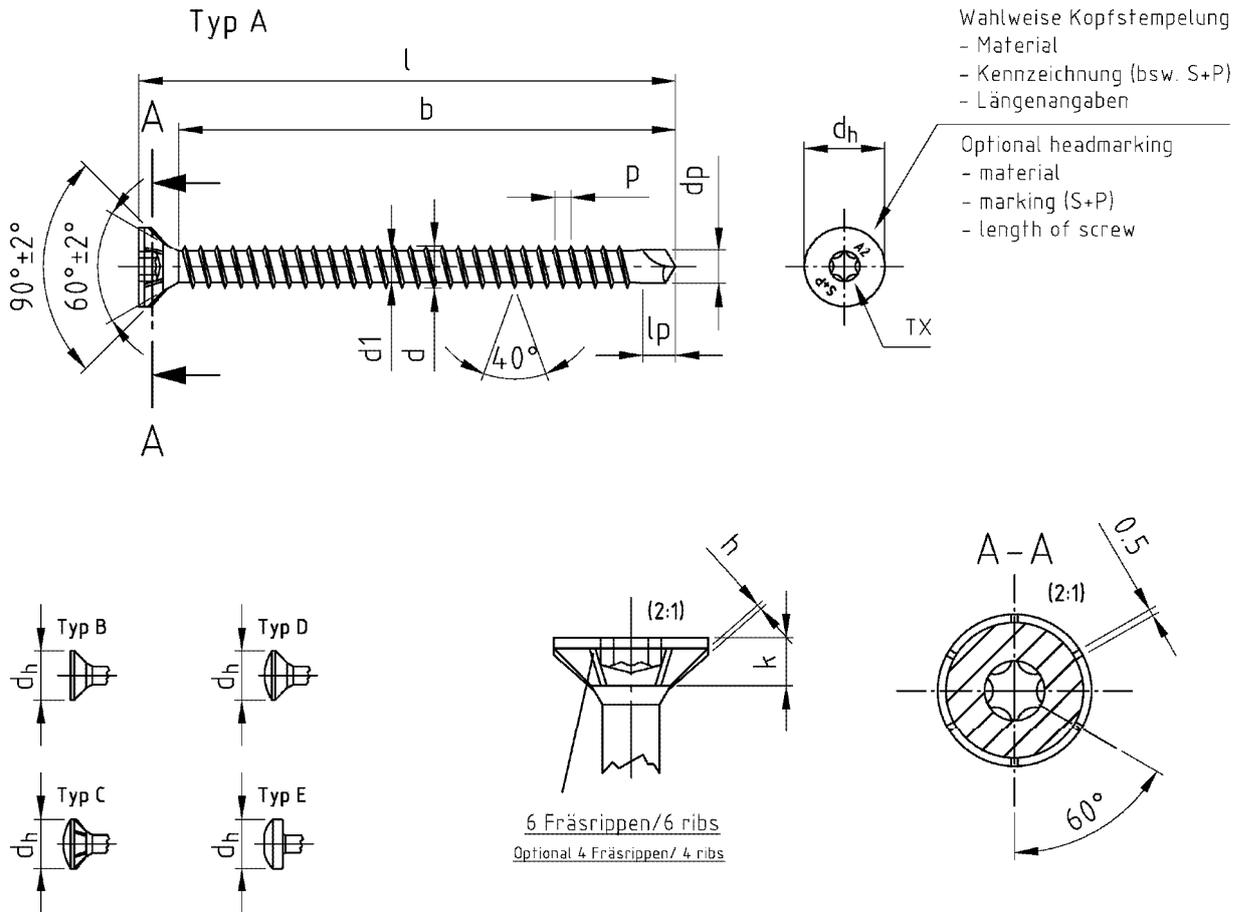
Bezeichnung	SP-Super-Drill/ Seko-Holzbauschrauben mit Bohrspitze											
Description	SP-Super-Drill/ CSK head wood screws with drilling-point											
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	k	p	lp	TX	h	fd1	fd2
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	8,0 -0,5	3,2 ±0,05	2,5 -0,4	1,8 ±10%	3,5 ±0,2	15/20	0,35 ±0,1	4,06 -0,25	3,2 -0,15
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	9,0 -0,5	3,5 ±0,05	2,7 -0,4	2,0 ±10%	3,7 ±0,2	20/25	0,40 ±0,1	4,36 -0,3	3,5 -0,15
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	10,0 -0,5	4,1 ±0,05	3,0 -0,5	2,2 ±10%	4,5 ±0,2	20/25	0,45 ±0,1	5,06 -0,3	4,1 -0,25
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	12,0 -0,5	5,1 ±0,05	3,8 -0,5	2,4 ±10%	4,9 ±0,2	25/30	0,50 ±0,1	5,96 -0,3	5,1 -0,25

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120-200
ø 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-
ø 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-
ø 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66
ø 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66
fh	4,0 -0,2			6,0 -0,2			12,0 -0,6				

S+P screws

SP-Super-Drill
 CSK head timber screw with drilling point

Annex 4.19



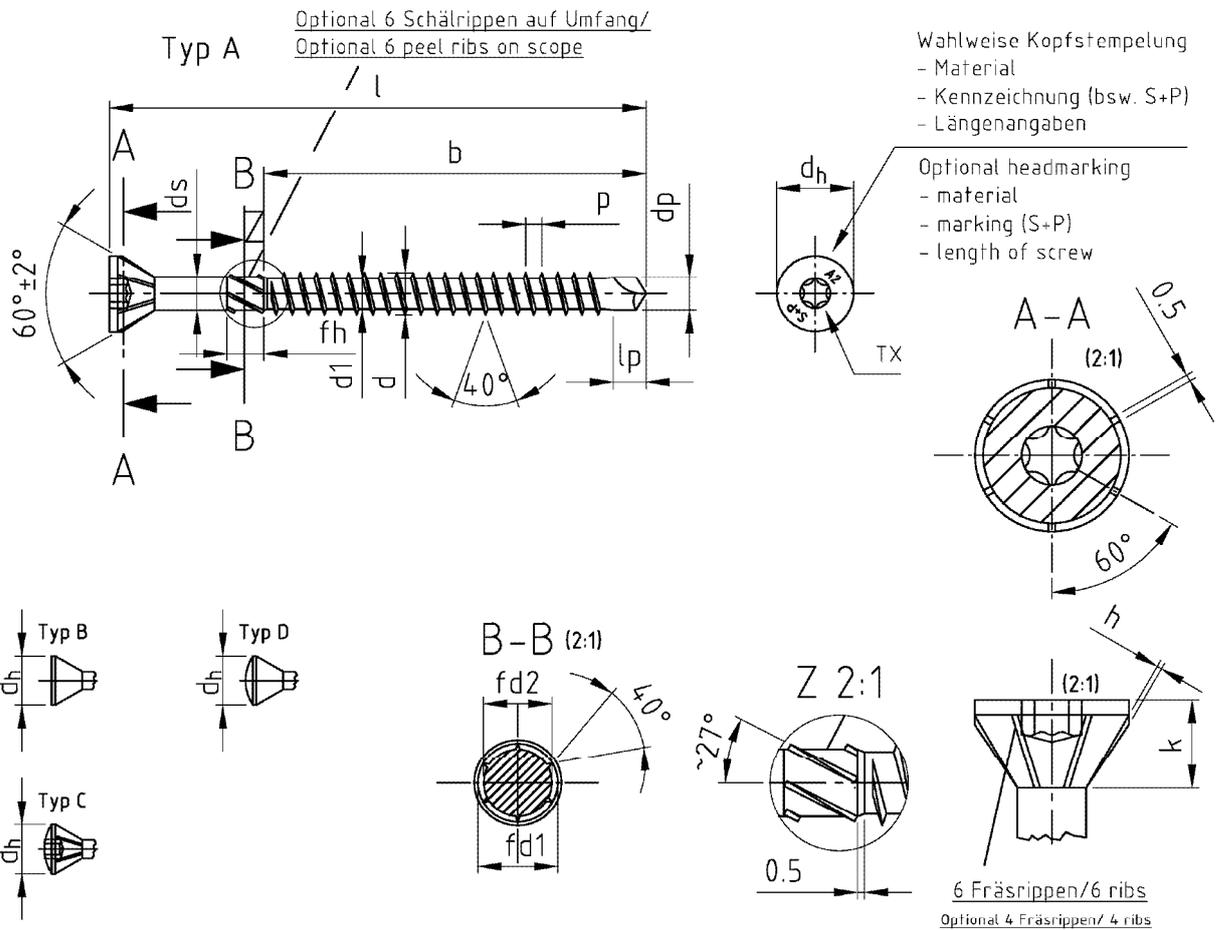
Bezeichnung	SP-Super-Drill/ Seko-Holzbauschrauben mit Bohrspitze, Vollgewinde								
Description	SP-Super-Drill/ CSK head wood screws with drilling-point, full thread								
Nennmaß/ Nominal dia.	d	d1	dp	dh	k	p	lp	TX	h
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	8,0 -0,5	2,5 -0,4	1,8 ±10%	3,5 ±0,2	15/20	0,35 ±0,1
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	9,0 -0,5	2,7 -0,4	2,0 ±10%	3,7 ±0,2	20/25	0,40 ±0,1
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	10,0 -0,5	3,0 -0,5	2,2 ±10%	4,5 ±0,2	20/25	0,45 ±0,1
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	12,0 -0,5	3,6 -0,5	2,4 ±10%	4,9 ±0,2	25/30	0,50 ±0,1

Nennmaß/ Nominal dia.	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100
Andere Schraubenlängen im Bereich Lmin ≤ L ≤ Lmax sind zulässig / Others screws lengths with Lmin ≤ L ≤ max are allowed				

S+P screws

SP-Super-Drill
 CSK head timber screw with drilling point, fully threaded

Annex 4.20



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

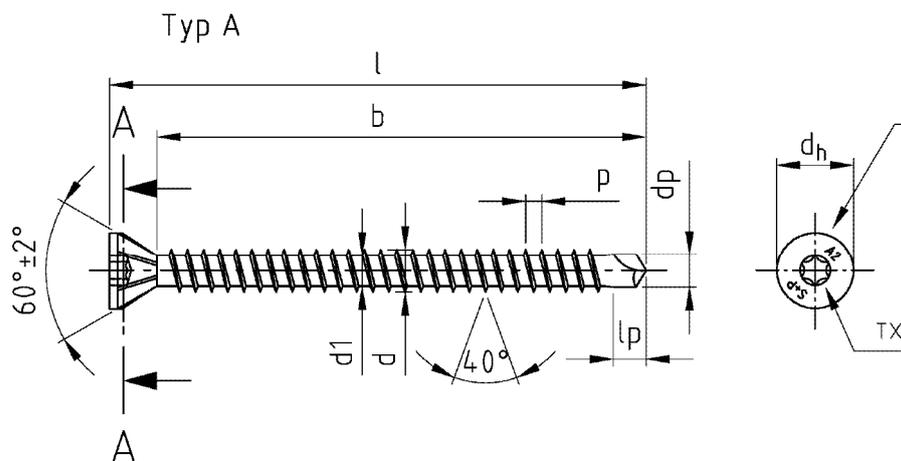
Bezeichnung	SP-Super-Drill 60°/ Seko-Holzbohschrauben mit Bohrspitze, 60° kopf											
Description	SP-Super-Drill 60°/ CSK head wood screws with drilling-point, 60° head											
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	k	p	lp	TX	h	fd1	fd2
Ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	7,0 -0,5	3,2 ±0,05	3,3 ±0,5	1,8 ±10%	3,5 ±0,2	15/20	0,35 ±0,1	4,06 -0,25	3,2 -0,15
Ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	8,0 -0,5	3,5 ±0,05	3,9 ±0,5	2,0 ±10%	3,7 ±0,2	20/25	0,40 ±0,1	4,36 -0,3	3,5 -0,15
Ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	8,5 -0,5	4,1 ±0,05	4,0 ±0,5	2,2 ±10%	4,5 ±0,2	20/25	0,45 ±0,1	5,06 -0,3	4,1 -0,25
Ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	11,0 -0,5	5,1 ±0,05	5,1 ±0,5	2,4 ±10%	4,9 ±0,2	25/30	0,50 ±0,1	5,96 -0,3	5,1 -0,25

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120-200	
Ø 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-	
Ø 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-	
Ø 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66	
Ø 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66	
fh	4,0 -0,2				6,0 -0,2				12,0 -0,6			

S+P screws

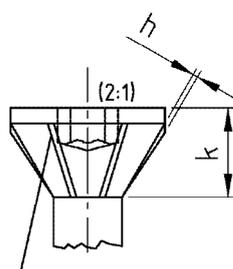
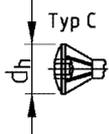
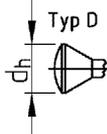
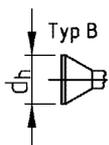
SP-Super-Drill 60°
 CSK head timber screw with drilling point, 60° head

Annex 4.21

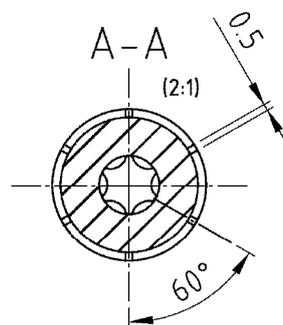


Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw



6 Fräsrippen/6 ribs
Optional 4 Fräsrippen/ 4 ribs



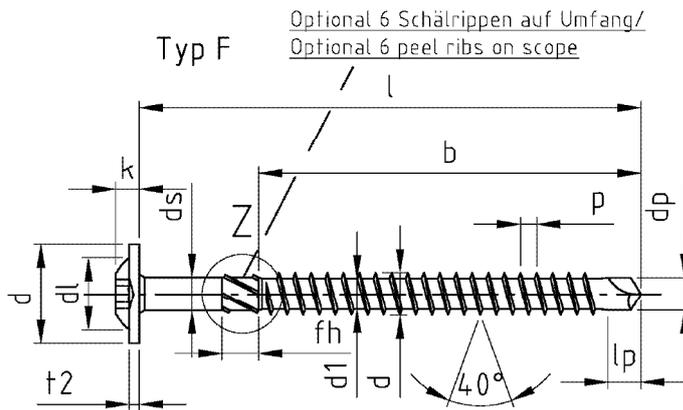
Bezeichnung	SP-Super-Drill 60°/ Seko-Holzbauschrauben mit Bohrspitze, 60° kopf, Vollgewinde								
Description	SP-Super-Drill 60°/ CSK head wood screws with drilling-point, 60° head, full thread								
Nennmaß/ Nominal dia.	d	d1	dp	dh	k	p	lp	TX	h
∅ 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	7,0 -0,5	3,3 ±0,5	1,8 ±10%	3,5 ±0,2	15/20	0,35 ±0,1
∅ 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	8,0 -0,5	3,9 ±0,5	2,0 ±10%	3,7 ±0,2	20/25	0,40 ±0,1
∅ 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	8,5 -0,5	4,0 ±0,5	2,2 ±10%	4,5 ±0,2	20/25	0,45 ±0,1
∅ 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	11,0 -0,5	5,1 ±0,5	2,4 ±10%	4,9 ±0,2	25/30	0,50 ±0,1

Nennmaß/ Nominal dia.	∅ 4,0	∅ 4,5	∅ 5,0	∅ 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100
Andere Schraubenlängen im Bereich Lmin ≤ L ≤ Lmax sind zulässig / Others screws lengths with Lmin ≤ L ≤ max are allowed				

S+P screws

SP-Super-Drill 60°
CSK head timber screw with drilling point, 60° head, fully threaded

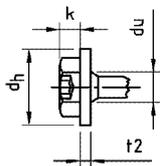
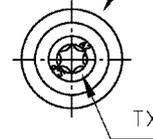
Annex 4.22



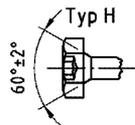
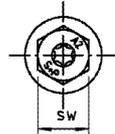
Optional 6 Schälrippen auf Umfang/
 Optional 6 peel ribs on scope

Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

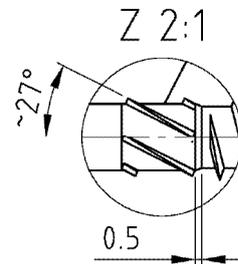
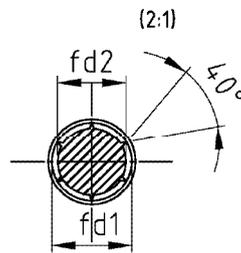
Optional headmarking
 - material
 - marking (S+P)
 - length of screw



Typ G



Typ H



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

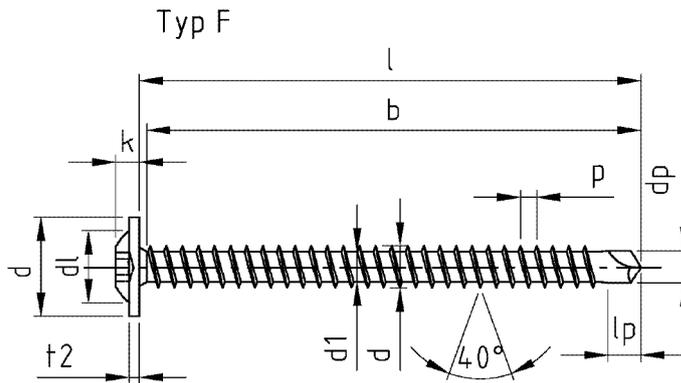
Bezeichnung	SP-Super-Drill/ Tellerkopf-Holzbohschrauben mit Bohrspitze, Vollgewinde													
Description	SP-Super-Drill/ Pan washer head timber screws with drilling point, full thread													
Nennmaß/ Nominal dia.	d	d1	dp	dh	ds	dl	k	p	t2	lp	TX	sw	fd1	fd2
Ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	12,0 ±1,0	3,2 ±0,05	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	3,5 ±0,2	15/20	6	4,06 -0,25	3,2 -0,15
Ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	13,0 ±1,0	3,5 ±0,05	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	3,7 ±0,2	20/25	7	4,36 -0,3	3,5 -0,15
Ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	14,0 ±1,0	4,1 ±0,05	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	4,5 ±0,2	20/25	8	5,06 -0,3	4,1 -0,25
Ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	15,0 ±1,0	5,1 ±0,05	11,0	3,8 ±0,4	2,4 ±10%	2,0 -0,5	4,9 ±0,2	25/30	10	5,96 -0,3	5,1 -0,25

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120	140-200
Ø 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-	-
Ø 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-	-
Ø 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66	-
Ø 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66	66
fh	4,0 -0,2			6,0 -0,2				12,0 -0,6				

S+P screws

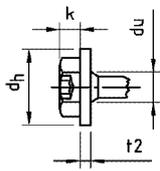
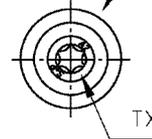
SP-Super-Drill
 Pan washer head timber screw with drilling point

Annex 4.23

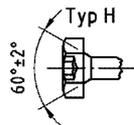
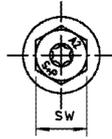


Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

Optional headmarking
 - material
 - marking (S+P)
 - length of screw



Typ G



Typ H

Bezeichnung	SP-Super-Drill/ Tellerkopf-Holzbauschrauben mit Bohrspitze, Vollgewinde										
Description	SP-Super-Drill/ Pan washer head timber screws with drilling point, full thread										
Nennmaß/ Nominal dia.	d	d1	dp	dh	dl	k	p	t2	lp	TX	sw
Ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	3,0 ±0,15	12,0 ±1,0	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	3,5 ±0,2	15/20	6
Ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	3,4 ±0,15	13,0 ±1,0	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	3,7 ±0,2	20/25	7
Ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	4,0 ±0,15	14,0 ±1,0	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	4,5 ±0,2	20/25	8
Ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	5,0 ±0,15	15,0 ±1,0	11,0	3,8 ±0,4	2,4 ±10%	2,0 -0,5	4,9 ±0,2	25/30	10

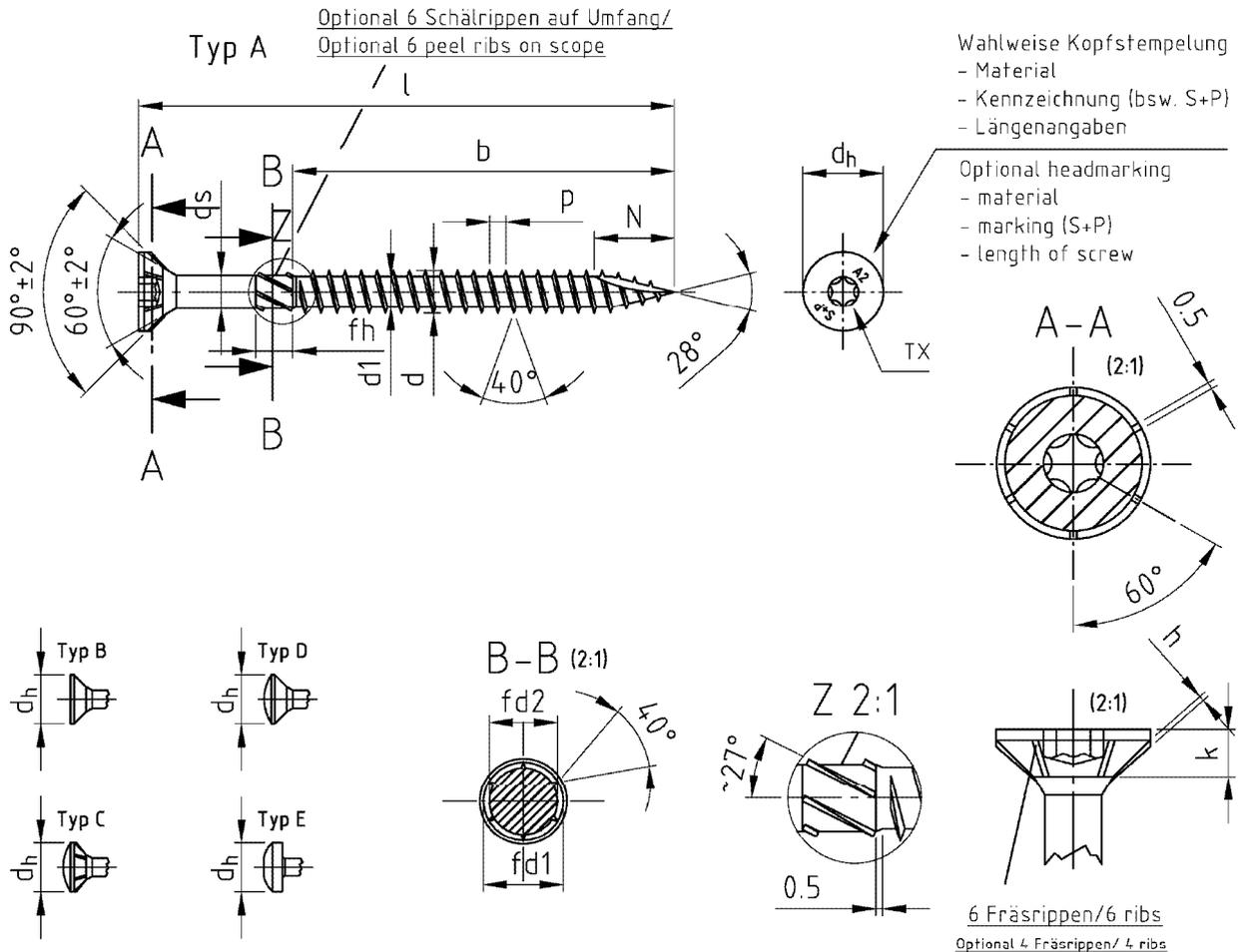
Nennmaß/ Nominal dia.	Ø 4,0	Ø 4,5	Ø 5,0	Ø 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Super-Drill
 Pan washer head timber screw with drilling point, fully threaded

Annex 4.24



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

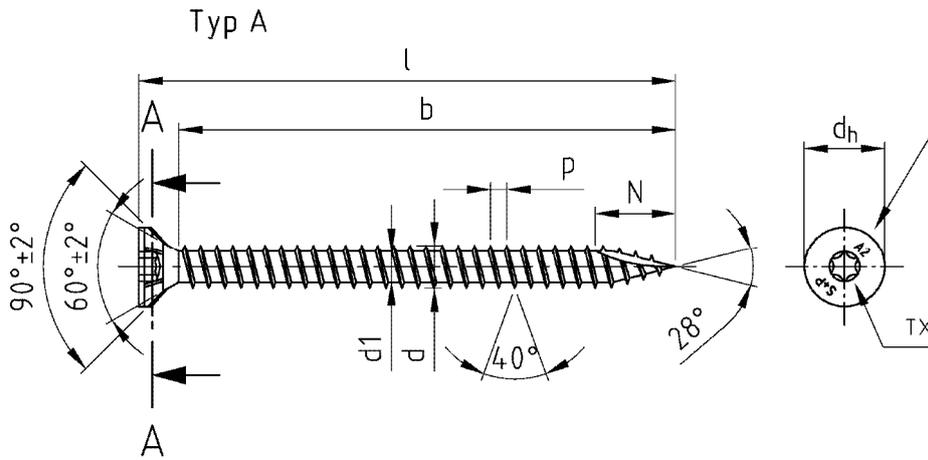
Bezeichnung	SP-Super-Drill/ Seko-Holzbauschrauben mit Schneidkerbe										
Description	SP-Super-Drill/ CSK head wood screws with cutting-point										
Nennmaß/ Nominal dia.	d	d1	dh	ds	k	p	TX	h	fd1	fd2	N
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	8,0 -0,5	3,2 ±0,05	2,5 -0,4	1,8 ±10%	15/20	0,35 ±0,1	4,06 -0,25	3,2 -0,15	7,5 ±0,5
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	9,0 -0,5	3,5 ±0,05	2,7 -0,4	2,0 ±10%	20/25	0,40 ±0,1	4,36 -0,3	3,5 -0,15	8,5 ±0,5
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	10,0 -0,5	4,1 ±0,05	3,0 -0,5	2,2 ±10%	20/25	0,45 ±0,1	5,06 -0,3	4,1 -0,25	9,5 ±0,5
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	12,0 -0,5	5,1 ±0,05	3,6 -0,5	2,4 ±10%	25/30	0,50 ±0,1	5,96 -0,3	5,1 -0,25	11,0 ±1,0

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120	140-200
ø 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-	-
ø 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-	-
ø 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66	-
ø 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66	66
fh	4,0 -0,2			6,0 -0,2			12,0 -0,6					

S+P screws

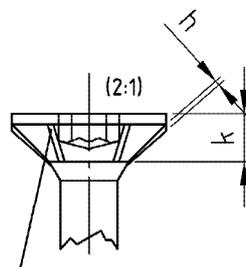
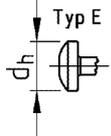
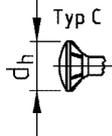
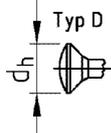
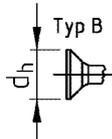
SP-Super-Drill
CSK head timber screw

Annex 4.25

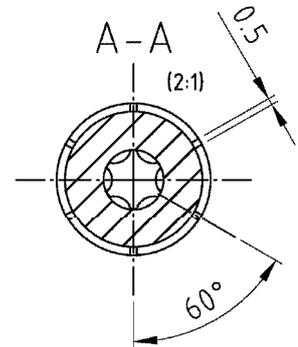


Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

Optional headmarking
 - material
 - marking (S+P)
 - length of screw



6 Fräsrippen/6 ribs
 Optional 4 Fräsrippen/ 4 ribs



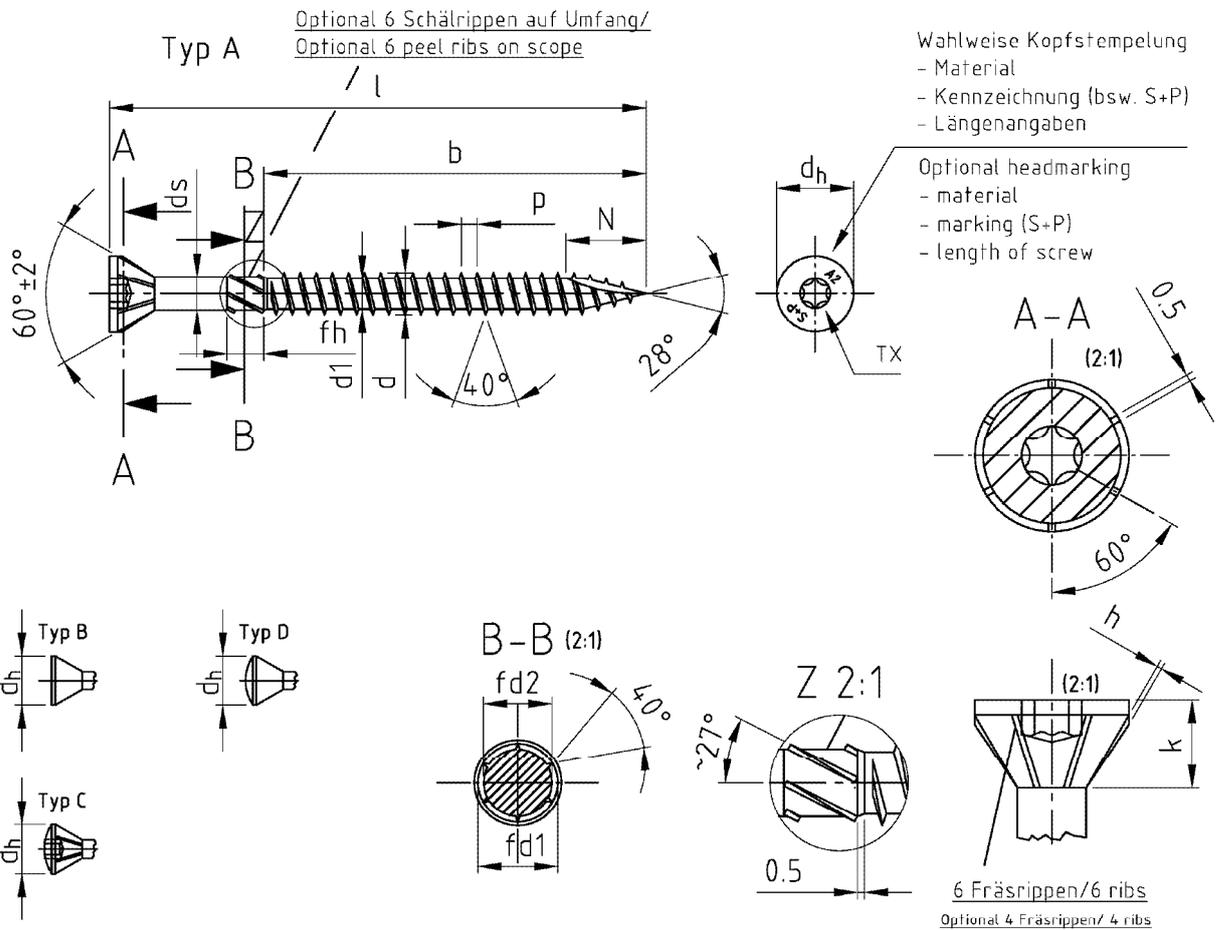
Bezeichnung	SP-Super-Drill/ Seko-Holzbauschrauben mit Schneidkerbe, Vollgewinde								
Description	SP-Super-Drill/ CSK head wood screws with cutting-point, full thread								
Nennmaß/ Nominal dia.	d	d1	d _h	k	p	TX	h	N	
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	8,0 -0,5	2,5 -0,4	1,8 ±10%	15/20	0,35 ±0,1	7,5 ±0,5	
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	9,0 -0,5	2,7 -0,4	2,0 ±10%	20/25	0,40 ±0,1	8,5 ±0,5	
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	10,0 -0,5	3,0 -0,5	2,2 ±10%	20/25	0,45 ±0,1	9,5 ±0,5	
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	12,0 -0,5	3,6 -0,5	2,4 ±10%	25/30	0,50 ±0,1	11,0 ±1,0	

Nennmaß/ Nominal dia.	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100
Andere Schraubenlängen im Bereich L _{min} ≤ L ≤ L _{max} sind zulässig / Others screws lengths with L _{min} ≤ L ≤ max are allowed				

S+P screws

SP-Super-Drill
 CSK head timber screw, fully threaded

Annex 4.26



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

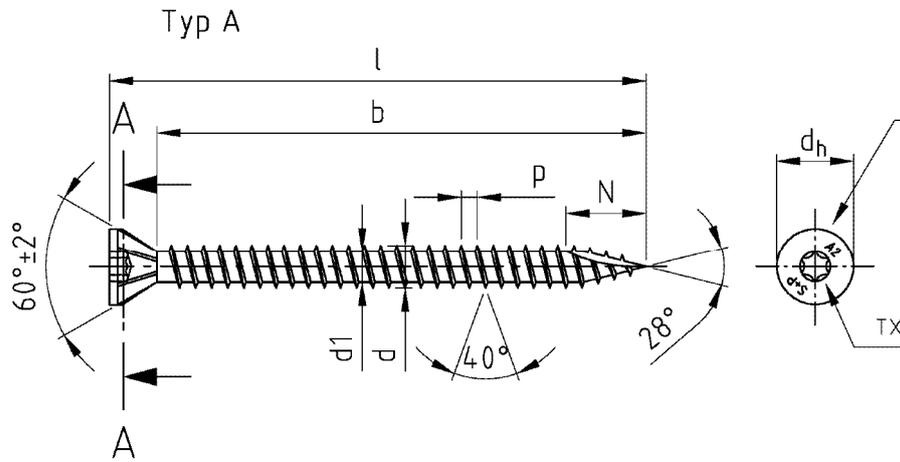
Bezeichnung	SP-Super-Drill 60°/ Seko-Holzbauschrauben mit Schneidkerbe, 60° kopf											
Description	SP-Super-Drill 60°/ CSK head wood screws with cutting-point, 60° head											
Nennmaß/ Nominal dia.	d	d1	dh	ds	k	p	TX	h	fd1	fd2	N	
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	7,0 -0,5	3,2 ±0,05	3,3 ±0,5	1,8 ±10%	15/20	0,35 ±0,1	4,06 -0,25	3,2 -0,15	7,5 ±0,5	
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	8,0 -0,5	3,5 ±0,05	3,9 ±0,5	2,0 ±10%	20/25	0,40 ±0,1	4,36 -0,3	3,5 -0,15	8,5 ±0,5	
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	8,5 -0,5	4,1 ±0,05	4,0 ±0,5	2,2 ±10%	20/25	0,45 ±0,1	5,06 -0,3	4,1 -0,25	9,5 ±0,5	
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	11,0 -0,5	5,1 ±0,05	5,1 ±0,5	2,4 ±10%	25/30	0,50 ±0,1	5,96 -0,3	5,1 -0,25	11,0 ±1,0	

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120	140-200
ø 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-	-
ø 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-	-
ø 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66	-
ø 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66	66
fh	4,0 -0,2			6,0 -0,2			12,0 -0,6					

S+P screws

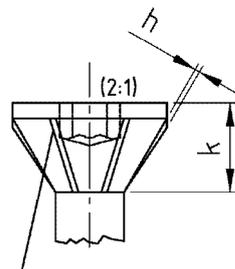
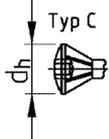
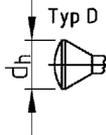
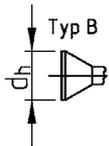
SP-Super-Drill 60°
CSK head timber screw, 60° head

Annex 4.27

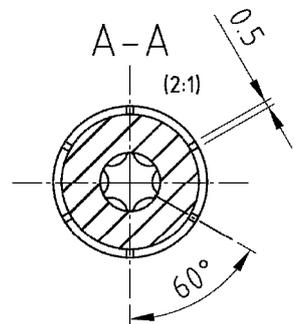


Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw



6 Fräsrippen/6 ribs
Optional 4 Fräsrippen/ 4 ribs



Bezeichnung	SP-Super-Drill 60°/ Seko-Holzbauschrauben mit Schneidkerbe, 60° kopf, Vollgewinde							
Description	SP-Super-Drill 60°/ CSK head wood screws with cutting-point, 60° head, full thread							
Nennmaß/ Nominal dia.	d	d1	dh	k	p	TX	h	N
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	7,0 -0,5	3,3 ±0,5	1,8 ±10%	15/20	0,35 ±0,1	7,5 ±0,5
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	8,0 -0,5	3,9 ±0,5	2,0 ±10%	20/25	0,40 ±0,1	8,5 ±0,5
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	8,5 -0,5	4,0 ±0,5	2,2 ±10%	20/25	0,45 ±0,1	9,5 ±0,5
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	11,0 -0,5	5,1 ±0,5	2,4 ±10%	25/30	0,50 ±0,1	11,0 ±1,0

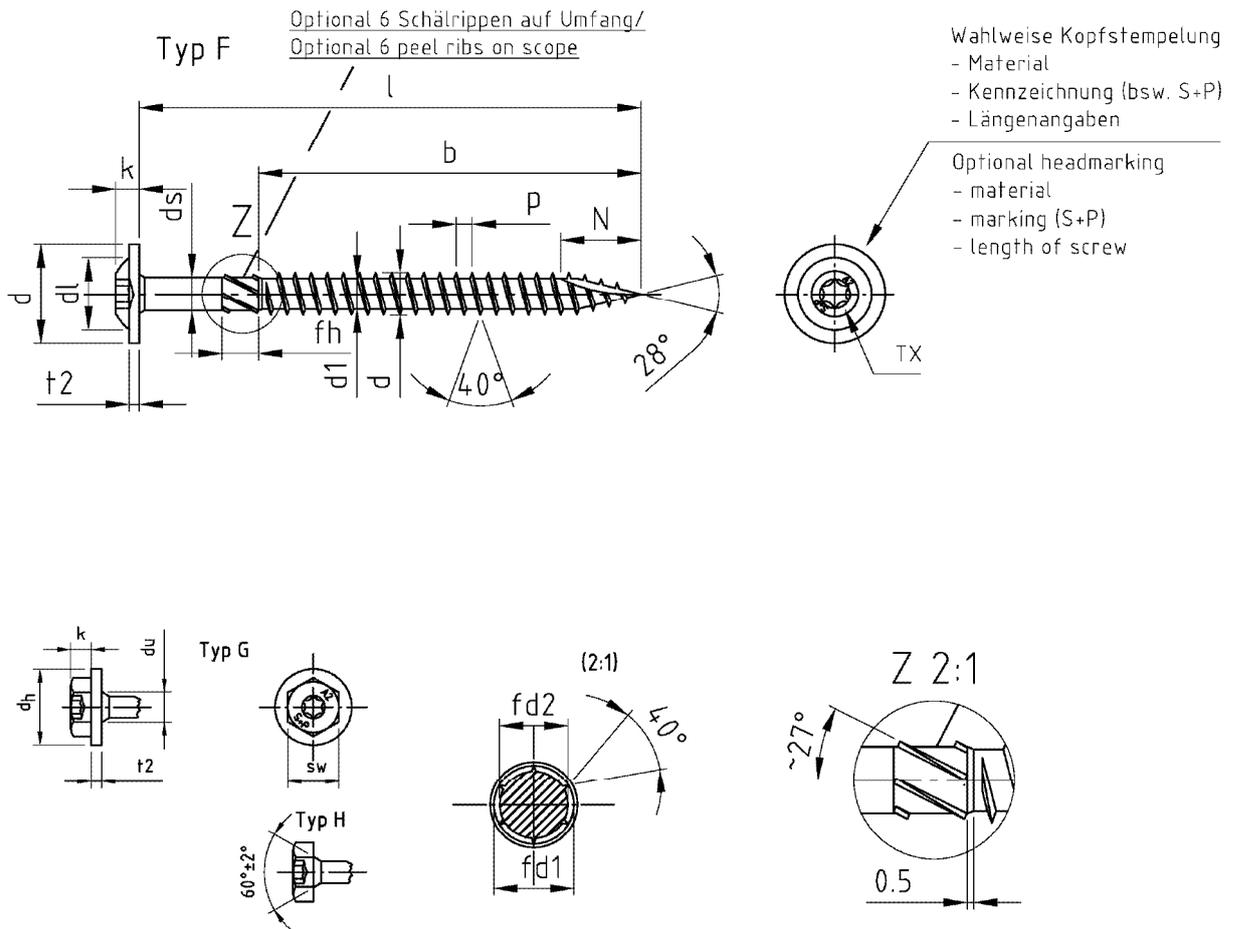
Nennmaß/ Nominal dia.	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Super-Drill 60°
CSK head timber screw, fully threaded, 60° head

Annex 4.28



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

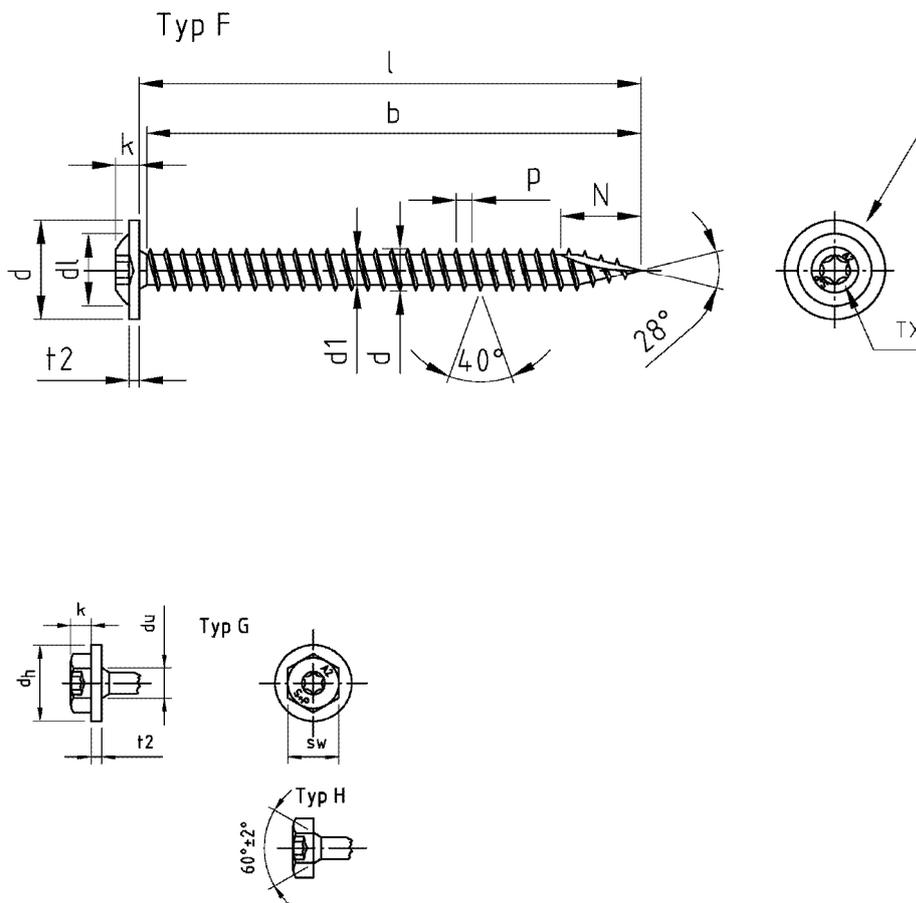
Bezeichnung	SP-Super-Drill/ Tellerkopf-Holzbauschrauben mit Schneidkerbe													
Description	SP-Super-Drill/ Pan washer head timber screws with cutting point													
Nennmaß/ Nominal dia.	d	d1	dh	ds	dl	k	p	t2	TX	sw	fd1	fd2	N	
∅ 4,0	4,1 +0,2/-0,1	3,0 ±0,1	12,0 ±1,0	3,2 ±0,05	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6	4,06 -0,25	3,2 -0,15	7,5 ±0,5	
∅ 4,5	4,6 +0,2/-0,1	3,3 ±0,1	13,0 ±1,0	3,5 ±0,05	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7	4,36 -0,3	3,5 -0,15	8,5 ±0,5	
∅ 5,0	5,3 +0,2/-0,1	3,7 ±0,1	14,0 ±1,0	4,1 ±0,05	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8	5,06 -0,3	4,1 -0,25	9,5 ±0,5	
∅ 6,0	6,5 +0,2/-0,1	4,7 ±0,1	15,0 ±1,0	5,1 ±0,05	11,0	3,8 ±0,4	2,4 ±10%	2,0 -0,5	25/30	10	5,96 -0,3	5,1 -0,25	11,0 ±1,0	

l -1/2 IT17	30	35	40	45	50	60	70	80	90	100	120	140-200
∅ 4,0 b ±1	21	26	26	28	33	40	50	50	-	-	-	-
∅ 4,5 b ±1	-	26	26	31	33	40	50	50	58	58	-	-
∅ 5,0 b ±1	-	-	26	30	36	40	50	50	58	58	66	-
∅ 6,0 b ±1	-	-	-	-	30	35	47	57	57	66	66	66
fh	4,0 -0,2			6,0 -0,2				12,0 -0,6				

S+P screws

SP-Super-Drill
Pan washer head timber screw

Annex 4.29



Wahlweise Kopfstempelung
- Material
- Kennzeichnung (bsw. S+P)
- Längenangaben

Optional headmarking
- material
- marking (S+P)
- length of screw

Bezeichnung	SP-Super-Drill/ Tellerkopf-Holzbauschrauben mit Schneidkerbe, Vollgewinde									
Description	SP-Super-Drill/ Pan washer head timber screws with cutting-point, full thread									
Nennmaß/ Nominal dia.	d	d1	dh	d1	k	p	t2	TX	sw	N
ø 4,0	4,1 +0,2/-0,1	3,0 ±0,1	12,0 ±1,0	7,0	3,0 ±0,4	1,8 ±10%	1,5 -0,5	15/20	6	7,5 ±0,5
ø 4,5	4,6 +0,2/-0,1	3,3 ±0,1	13,0 ±1,0	8,0	3,2 ±0,4	2,0 ±10%	1,5 -0,5	20/25	7	8,5 ±0,5
ø 5,0	5,3 +0,2/-0,1	3,7 ±0,1	14,0 ±1,0	9,0	3,5 ±0,4	2,2 ±10%	1,5 -0,5	20/25	8	9,5 ±0,5
ø 6,0	6,5 +0,2/-0,1	4,7 ±0,1	15,0 ±1,0	11,0	3,8 ±0,4	2,4 ±10%	2,0 -0,5	25/30	10	11,0 ±1,0

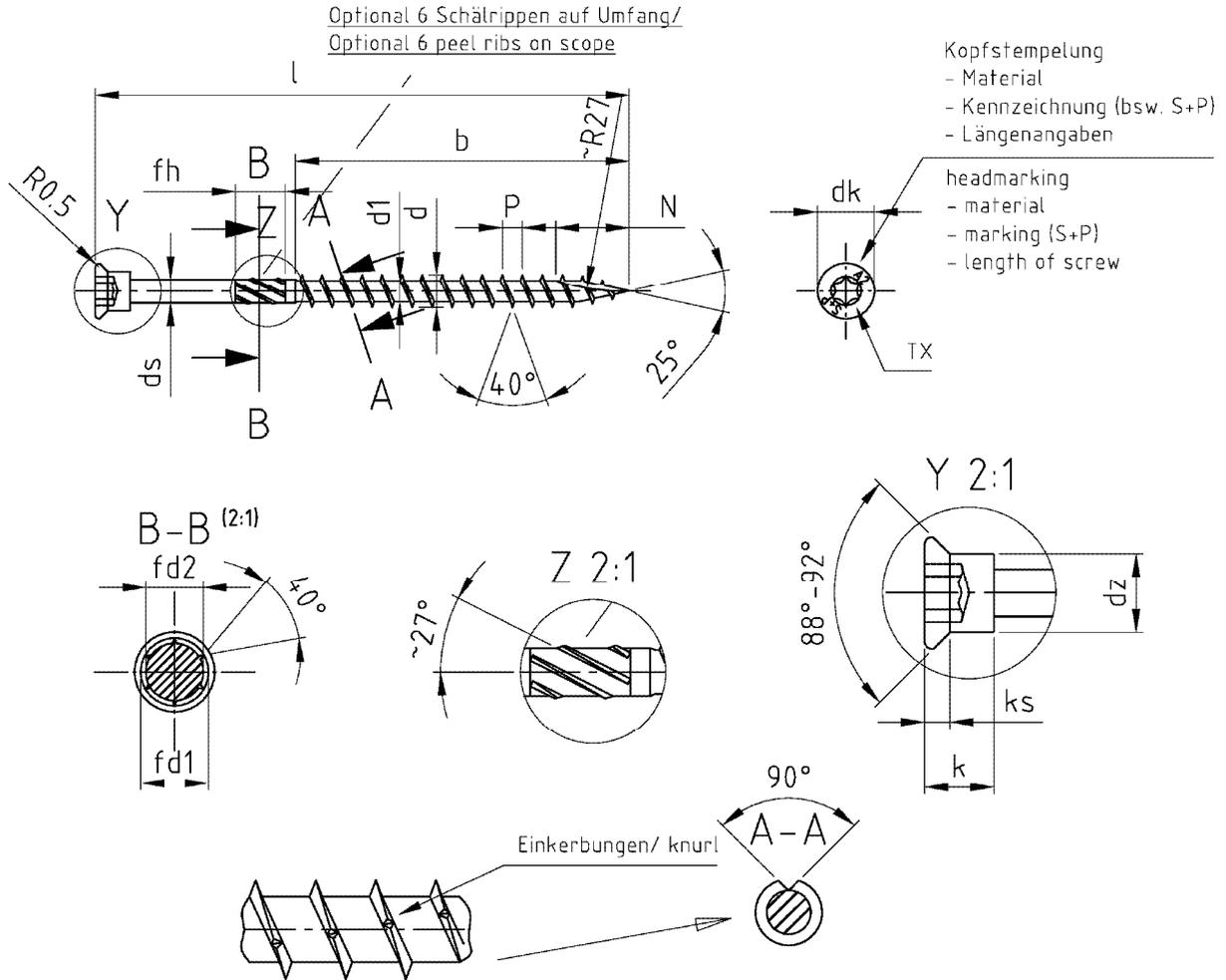
Nennmaß/ Nominal dia.	ø 4,0	ø 4,5	ø 5,0	ø 6,0
l min. ±1	23	23	28	36
l max. ±1	80	100	100	110
b ±1	min. /+ k	20	25	30
	max. /+ k	75	90	100

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq L_{max}$ are allowed

S+P screws

SP-Super-Drill
Pan washer head timber screw, fully threaded

Annex 4.30



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

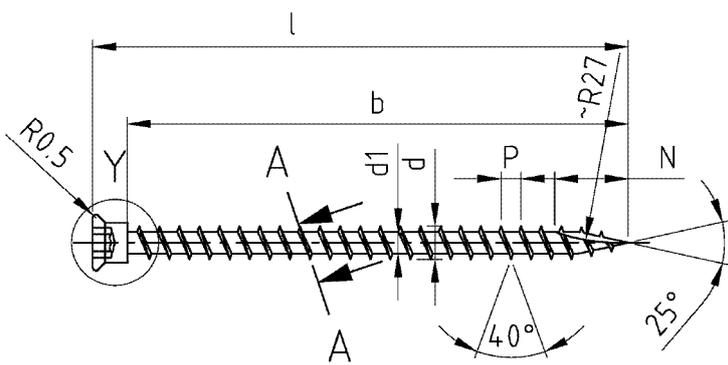
Bezeichnung	SP-Drill/Zyl.-Terrassenbauschrauben, Schneidkerbe											
Description	SP-Drill/ cyl. head terrace screws, cutting-point											
Nennmaß/ Nominal dia.	d	d1	dh	dz	ds	k	ks	p	TX	fd1	fd2	N
ø 4,0	4,0 ±0,15	2,55 ±0,1	5,70 -0,3	3,95 ±0,1	2,8 ±0,05	4,35 -0,25	0,90 -0,3	2,5 ±0,1	15/20	3,4 -0,25	2,7 -0,15	8,7 ±0,5
ø 4,5	4,5 ±0,15	2,9 ±0,1	7,05 -0,3	5,35 ±0,1	3,15 ±0,05	4,8 -0,3	1,10 -0,3	2,8 ±0,1	20/25	3,7 -0,25	2,9 -0,15	9,8 ±0,5
ø 5,0	5,0 ±0,15	3,3 ±0,1	8,75 -0,3	6,15 ±0,15	3,55 ±0,05	5,45 -0,3	1,30 -0,3	3,2 ±0,1	20/25	4,35 -0,3	3,5 -0,15	11,2 ±0,5

l ±1	40	45	50	60	70	80	90	100	
ø 4,0 b ±1	24	24	30	38	42	48	-	-	
ø 4,5 b ±1	-	24	30	38	42	48	54	60	
ø 5,0 b ±1	-	24	30	38	42	48	54	60	
fh	4,0 -0,2			6,0 -0,2			12,0 -0,6		

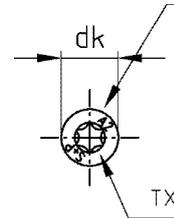
S+P screws

SP-Drill
 Cylinder head terrace screw

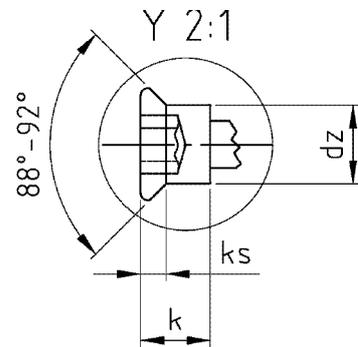
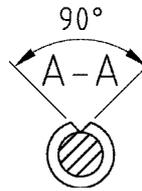
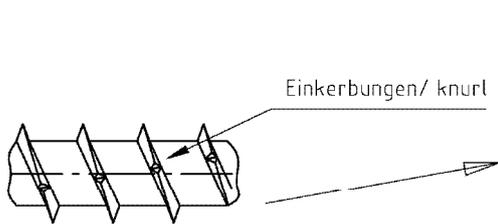
Annex 4.31



Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben



headmarking
 - material
 - marking (S+P)
 - length of screw



Bezeichnung	SP-Drill/Zyl.-Terrassenbauschrauben, Schneidkerbe, Vollgewinde									
Description	SP-Drill/ cyl. head terrace screws, cutting-point, full thread									
Nennmaß/ Nominal dia.	d	d1	dh	dz	k	ks	p	TX	N	
ø 4,0	4,0 ±0,15	2,55 ±0,1	5,70 -0,3	3,95 ±0,1	4,35 -0,25	0,90 -0,3	2,5 ±0,1	15/20	8,7 ±0,5	
ø 4,5	4,5 ±0,15	2,9 ±0,1	7,05 -0,3	5,35 ±0,1	4,8 -0,3	1,10 -0,3	2,8 ±0,1	20/25	9,8 ±0,5	
ø 5,0	5,0 ±0,15	3,3 ±0,1	8,75 -0,3	6,15 ±0,15	5,45 -0,3	1,30 -0,3	3,2 ±0,1	20/25	11,2 ±0,5	

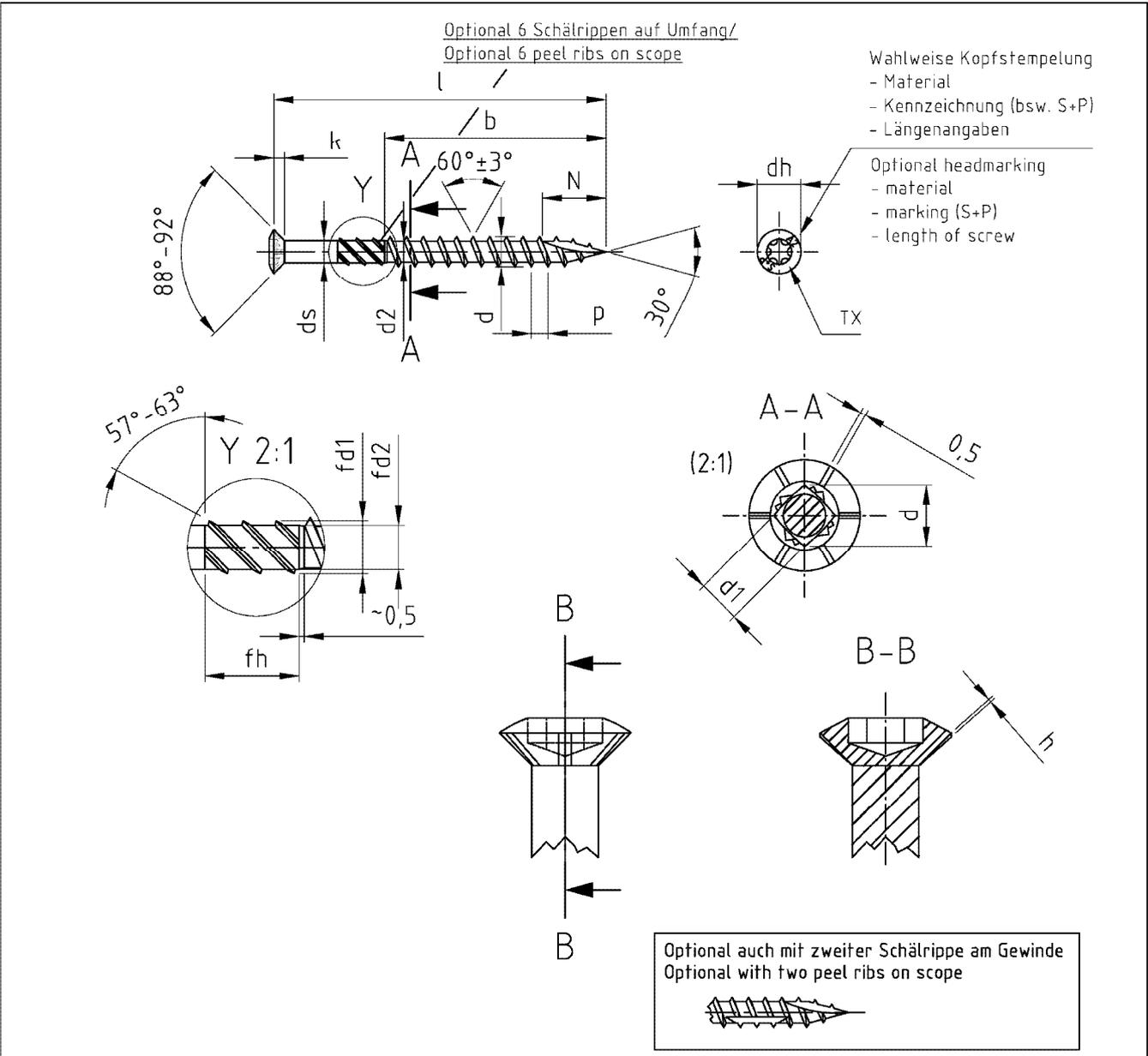
Nennmaß/ Nominal dia.	ø 4,0	ø 4,5	ø 5,0
l min. ±1	23	23	28
l max. ±1	80	100	100
b ±1	min. /+ k	20	25
	max. /+ k	75	90

Andere Schraubenlängen im Bereich $L_{min} \leq L \leq L_{max}$ sind zulässig / Others screws lengths with $L_{min} \leq L \leq max$ are allowed

S+P screws

SP-Drill
 Cylinder head terrace screw, fully threaded

Annex 4.32

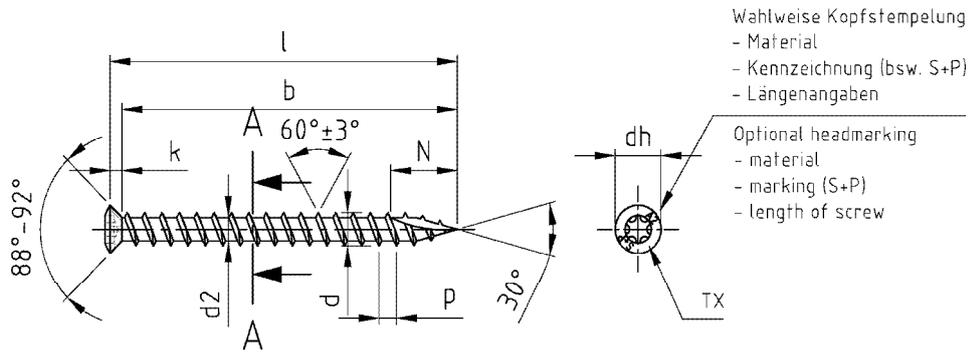


Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

Bezeichnung	T-Drill/ Liseko-Terrassenbauschrauben, Schneidkerbe												
Description	T-Drill/ RSD CSK head terrace screws, cutting point												
Nennmaß/ Nominal dia.	d	d1	d2	dh	ds	k	p	TX	h	N	fd1	fd2	fh
ø 5,0	5,5 -0,4	4,9 -0,3	3,8 -0,2	7,95 -0,45	4,15 -0,18	max. 3,0	3,10 -0,2	20/25	0,5	11,5 ±0,5	4,8 -0,3	4,15 -0,18	9,0 -0,5

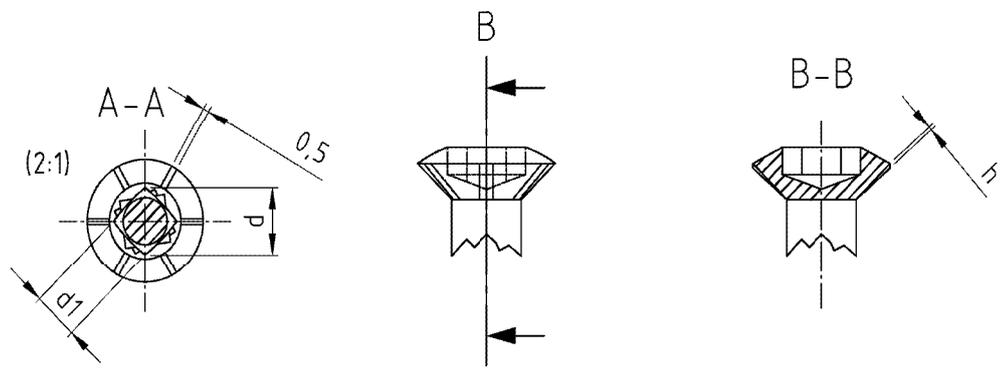
l	40 -1,75	50 - 1,75	60 -1,75	70 -1,75	80 -2.28
b +1,0	26	32	39	46	52

S+P screws	Annex 4.33
T-Drill RSD CSK head terrace screw	



Wahlweise Kopfstempelung
 - Material
 - Kennzeichnung (bsw. S+P)
 - Längenangaben

Optional headmarking
 - material
 - marking (S+P)
 - length of screw

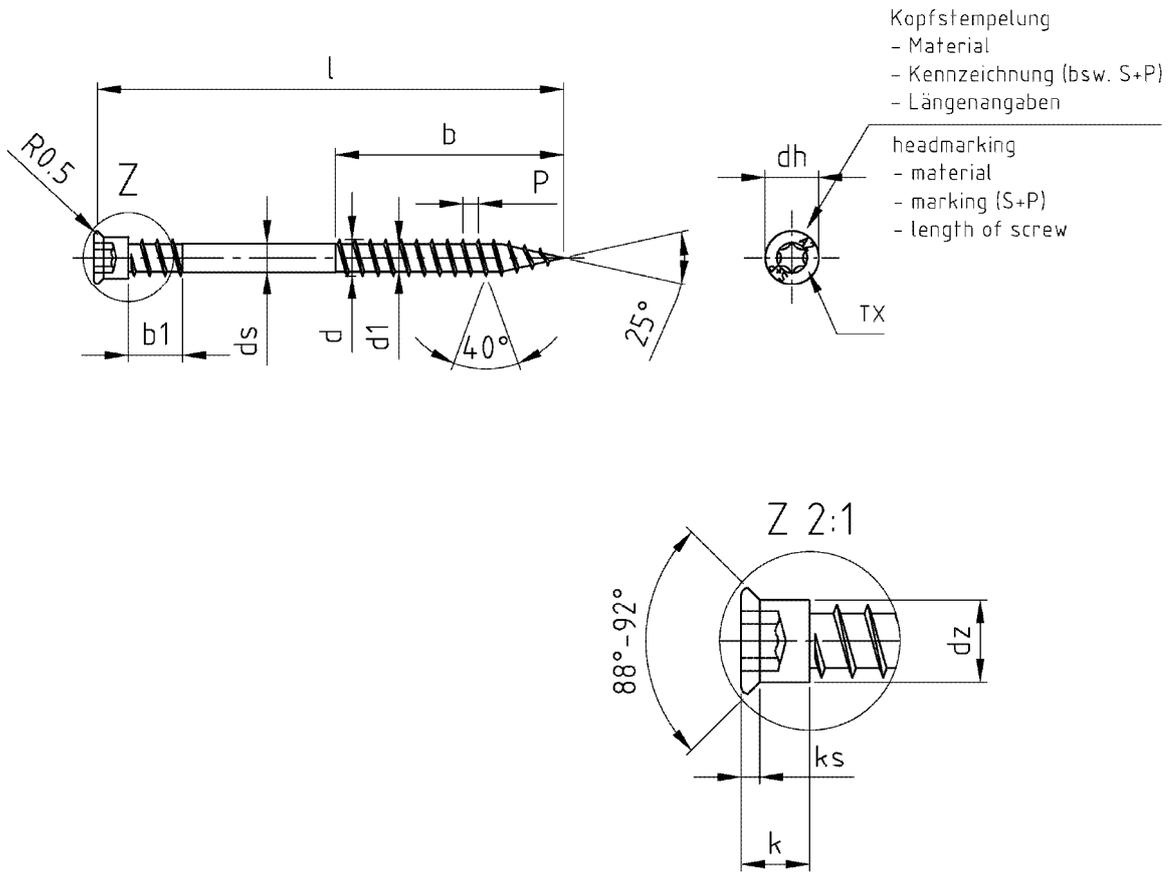


Optional auch mit zweiter Schälrippe am Gewinde
 Optional with two peel ribs on scope

Bezeichnung	T-Drill/ Liseko-Terrassenbauschrauben, Schneidkerbe, Vollgewinde									
Description	T-Drill/ RSD CSK head terrace screws, cutting point, full thread									
Nennmaß/ Nominal dia.	d	d1	d2	dh	k	p	TX	h	N	
∅ 5,0	5,5 -0,4	4,9 -0,3	3,8 -0,2	7,95 -0,45	max. 3,0	3,10 -0,2	20/25	0,5	11,5 ±0,5	

Nennmaß/ Nominal dia.	∅ 5,0	
l min. ±1	28	
l max. ±1	90	
b ±1	min. /+ k	25
	max. /+ k	80
Andere Schraubenlängen im Bereich Lmin ≤ L ≤ Lmax sind zulässig / Others screws lengths with Lmin ≤ L ≤ max are allowed		

S+P screws	Annex 4.34
T-Drill RSD CSK head terrace screw, fully threaded	



Mit fließendem Übergang vom Gewinde zum Schaft/ with floating crossing between shank and thread

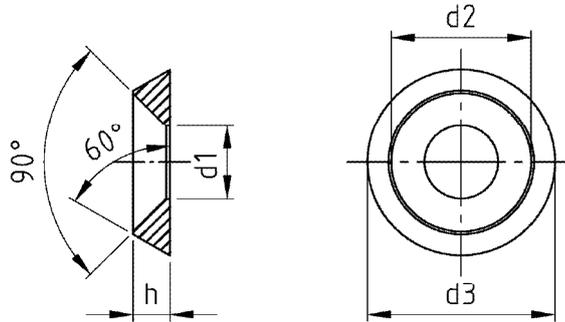
Bezeichnung	TBS-Drill/ Zyl.-Terrassenbauschr., Unterkopfgewinde									
Description	TBS-Drill/ cyl. head terrace screws, double thread									
Nennmaß/ Nominal dia.	d	d1	dh	dz	ds	k	ks	p	TX	b1
∅ 5,5	5,5 -0,3	4,1 -0,3	8,0 -0,3	6,15 ±0,15	4,26 ±0,05	5,1 -0,3	1,4 -0,3	2,3 ±0,1	20/25	8,0 ±0,5

$l \pm 1$	40	50	60	70	80	90	100
$\emptyset 5,5\ b \pm 1$	18	18	24	34	36	36	36

S+P screws

TBS-Drill
Cylinder head terrace screw, double thread

Annex 4.35



Bezeichnung	SP-Rosette Vollmetal			
Description	SP-Rosette Full Metal			
Nennmaß/ Nominal dia.	d3	d2	d1	h
∅ 4,0	11,0 +0,3	8,0 +0,3	4,5 +0,3	2,5 ±0,2
∅ 5,0	14,0 +0,3	10,0 +0,3	5,5 +0,3	3,0 ±0,2
∅ 6,0	16,0 +0,3	12,0 +0,3	7,0 +0,3	3,5 ±0,2
∅ 8,0	22,0 +0,3	16,0 +0,3	9,0 +0,3	4,5 ±0,2
∅ 10,0	28,0 +0,3	20,0 +0,3	11,0 +0,3	5,5 ±0,2

S+P screws

SP-Rosette
Washers

Annex 4.36