Karlsruher Institut für Technologie

Versuchsanstalt für Stahl, Holz und Steine
(Amtliche Materialprüfungsanstalt)
Karlsruher Institut für Technologie (KIT)

Leitung: Univ.-Prof. Dr.-Ing. P. Dietsch und Univ.-Prof. Dr.-Ing. T. Ummenhofer

INFORMATIVE TRANSLATION OF

OFFICIAL NOTIFICATION NO. 2180006

concerning the
modification of
the national technical test certificate

No.: P–BWU02–178006

Subject:	Drilling screws JT4-2/5-5,0x25-VARIO JT9-2/5-5,0x25-VARIO JT3-2/5-5,0x30-VARIO JT6-2/5-5,0x30-VARIO
Intended use:	Connections of wall brackets made of aluminum or stainless steel to substructures made of aluminum support profiles for rear ventilated facades according to DIN 18516-1
Applicant:	EJOT Baubefestigungen GmbH In der Stockwiese 35 57334 Bad Laasphe
Date of issue:	July 28, 2022
Period of validity until:	July 28, 2027

This notification no. 2180006 modifies the national technical test certificate no No.: P–BWU02–178006 dated 06.12.2017 and extends the period of validity. It is only valid in conjunction with the above-mentioned general building authority test certificate and may only be used together with it.

This Notification includes 9 pages and 4 annexes (10 pages).

KIT – Stahl- und Leichtbau
Versuchsanstalt für Stahl, Holz und Steine, 76128 Karlsruhe, Deutschland
Tel.: +49 (0)721 608 42215
Fax: +49 (0)721 608 44078

Inhaltsverzeichnis

I. General provisions

1. The national technical test certificate does not substitute the approvals, agreements and certificates prescribed by law for performing building projects.

2. The national technical test certificate is granted without prejudice to the rights of a third party, especially private property rights.

3. Manufacturers and distributors of the building product / construction type must provide copies of the national technical test certificate for the user of the building product / construction type without prejudice to further regulations in the „special provisions“ and he must point out to the fact that the national technical test certificate has to be available at the point of use. The authorities involved must be provided with copies of the national technical test certificate upon request.

4. The national technical test certificate may only be completely reproduced. A publication in extracts needs the written approval of the Versuchsanstalt für Stahl, Holz und Steine. Texts and drawings of advertising leaflets may not contradict the national technical test certificate. Translations of the national technical test certificate must include the note “translation of the German original version not examined by the Versuchsanstalt für Stahl, Holz und Steine.

5. The national technical test certificate is granted revocably. The provisions of the national technical test certificate may be subsequently amended or modified, especially if technical knowledge necessitates this.

6. Contraction against this notification is admissible. An appeal must be made within a month after receipt of this notification in writing or for record at the Versuchsanstalt für Stahl, Holz und Steine, Kaiserstraße 12, 76128 Karlsruhe. The date of receipt of the notice of opposition at the Versuchsanstalt für Stahl, Holz und Steine is relevant for the timeliness of the opposition.

II. Special provisions

1 Subject and field of application

1.1 Subject

Subject of the national technical test certificate are the drilling screws, manufactured and distributed by the company EJOT Baubefestigungen GmbH,

JT4-2/5-5,0x25-VARIO,
JT9-2/5-5,0x25-VARIO,
JT3-2/5-5,0x30-VARIO,
JT6-2/5-5,0x30-VARIO

for the connection of wall brackets made of aluminum or stainless steels with aluminum support profiles.

1.2 Field of application

The above subject is envisaged for the application according to DIN 18516-1:2010-06.

2 Requirements of the building product

2.1 Properties and composition

The specifications in the annexes, apply with regard to the dimensions, materials and corrosion protection.

2.2 Provisions for design and dimensioning

2.2.1 Preface

In the following and in the annexes, the component on which the screw head abuts (wall bracket) is designated as component I and the components on the side averted to the screw head (support profile) component II.

2.2.2 Load-bearing capacity

The verification concept given in DIN 18516-1:2010-06 applies. According to DIN 18516:2010-06, the design values of the load-bearing capacity result from the characteristic values of the load-bearing capacity with a partial safety factor of $\gamma_M = 2{,}0$. The characteristic values of the load-bearing capacity for connections are given in Annex 2. The following applies.

$F_{Q,Rk}$ characteristic value of the transverse load-bearing capacity (load direction rectangular to the axis of the screws)

$F_{Z,A,Rk}$ characteristic value of the pull-out bearing capacity (load direction parallel to the axis of the screws)

For considering a possible failure of component I for a tensile load of the connection (load direction parallel to the axis of the screws), the characteristic pull-through bearing capacity of the screw through component I (if an aluminium material is used for this component) can be calculated by means of DIN EN 1999 1 4:2010-05, equation (8.13). If the component I is made of stainless steel, the verification concept described in DIN EN 1993-1-3:2005-10, Table 8.2 shall apply.

For a combined load through transverse forces $F_{Q,i,Ed}$ from dead load and wind suction, proof is to be provided for each screw of the connection with the resulting impact $F_{Q,Ed}$. For a combined load from tensile forces F_Z and transverse forces F_Q from wind suction (WS) and dead load (EG), the following interaction proof is to be provided:

$$\frac{F_{Z,Ed}}{\min(F_{Z,A,Rd};F_{Z,D,Rd})}+\frac{F_{Q,WS,Ed}}{F_{Q,Rd}}+\frac{F_{Q,EG,Ed}}{F_{Q,Rd}}\leq 1{,}0$$

with $F_{Z,Ed}$ Design values of the interacting tensile forces

$F_{Q,WS,Ed}$ Design value of the interacting transverse forces based on wind suction load

$F_{Q,EG,Ed}$ Design value of the interacting transverse forces based on load from dead load

$F_{Z,A,Rd}$ Design values form the pull-out bearing capacity

$F_{Z,D,Rd}$ Design value of the pull-through bearing capacity

$F_{Q,Rd}$ Design value of the transverse force bearing capacity

The characteristic values apply for components I made of aluminum alloys with a minimum tensile strength Rm = 190 N/mm² to Rm = 245 N/mm² or made of stainless steel 1.4301, 1.4401 or 1.4404 of strength class S275 with a minimum tensile strength of Rm = 550 N/mm² according to general building approval Z-30.3-6 dated 01.05.2022 and for components II made of aluminum alloys with a tensile strength of Rm = 190 N/mm² to Rm = 245 N/mm² according to DIN EN 755-2:2016-10. Linear interpolation may be performed for intermediate values of the tensile strength.

For intermediate values of the component thickness, the characteristic value for the lower component thickness must be used.

2.2.3 Edge distances and hole diameters

The minimum value of the distance to the longitudinal edge of the bearing profile is e_1 = 10 mm. The minimum value of the distance to the transverse edge of the support profile is e_2 = 10 mm at the fixed point and e_2 = 50 mm at the sliding point (see Figure 1). The mean values of the distances of the fasteners to the edge of the wall bracket can be seen in Annex 3.1 and 3.2. The hole diameters can be seen in Annex 3.1 and 3.2.

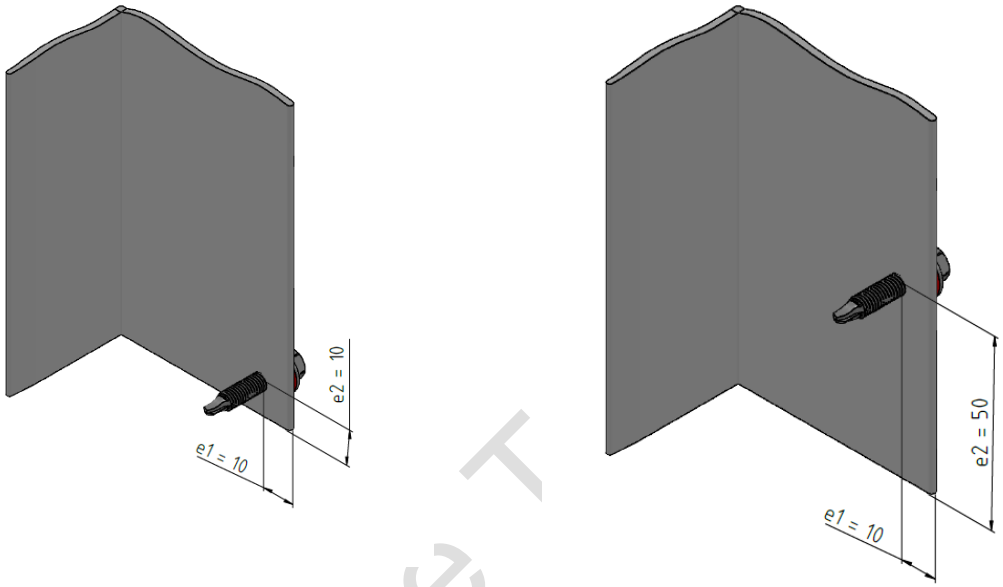


Figure 1: Graphical representation of the distances to the longitudinal and transverse edge of the support profile at the fixed point (left) and at the sliding point (right)

2.2.4 Temperature-related restraint load

The application of fasteners for non-restraint-free connections is only allowable with a proof of constraint stress due to temperature (transverse load), cf. DIN 18516-1:2010-06, section 5.2.2. Without this proof, the fasteners may only be applied for restraint-free connections. This restriction, however, do not apply for connections with long holes, where no or only negligibly small temperature-related restraint loads may develop because of the displacement of the screws in the long hole.

2.3 Provisions for the design

Connections corresponding to section 1 may only be produced by firms having the necessary experience, unless a training of the assembling staff through skilled persons is ensured being experienced in this field.

Upon scheduled lateral force load the components to be connected must directly lie on one another and the shear joint must be located on the contact point of component I with component II so that the connecting element does not undergo any additional bending.

The fasteners are to be attached rectangular to the component surface in order to secure a faultless bearing connection.

Visually, the screws are to be bolted with a depth stop and the pull-out moment is to be controlled in a way that the EPDM slightly protrudes over the metallic area of the sealing washer (see Annex 4.1).

For all screws, bolting is performed by means of a drill driver or a driver with depth stop. The use of impact drivers is non-admissible.

3 Verification of conformity

3.1 General

The confirmation of the conformity of the fasteners with the provisions of this national technical test certificate must be made for each manufacturing plant through a declaration of conformity of the producers on the basis of a factory production control and a first inspection of the fasteners performed through an approved inspection body.

3.2 Factory production control

In each manufacturing plant, a factory production control according to the principles of the Deutsches Institut für Bautechnik (German Institute for Building Technology) for the “proof of conformity for fasteners in lightweight metal construction” (see number 6/1999 of the “DIBt Mitteilungen”) is to be established and performed. Factory production control is understood as the continuous monitoring of the production performed by the manufacturer with which he secures that his building products correspond to the provisions of this national technical test certificate.

Within the scope of the factory production control the following is to be checked:

- Form and dimensions of the fasteners
- their mechanical properties and
- the base material applied

The results of the factory production control are to be recorded and evaluated. The records must include the following information at least:

- designation of the building product, the base material and the components
- type of control or test

- date of production and control / test of the building product or base material or components
- Results of tests / controls and comparison with the requirements
- Signature of the person responsible for the factory production control

The records have to be kept five years at least. Upon request, they have to be submitted to the German Institute for Building Technology (DIBt), to the appropriate highest building authority and to the issuing inspection body.

In case of test results that do not meet the requirements of the standard technical specifications, the manufacturer must immediately take the necessary measures in order to remedy shortcomings. Within the scope of factory production control it must be secured that those building products that do not meet the requirements are not provided with the conformity mark (Ü mark) and confusions with conforming ones are excluded. For proving the remedy of defects, the relevant test must be repeated immediately after removal of the defects.

3.3 First inspection of the fasteners

Within the scope of the first inspection, the requirements imposed in section 2.1 of this national technical test certificate are to be checked. Sampling and tests are incumbent on the respective approved body.

4 Conformity mark

The building product is to be provided with the conformity mark (Ü mark) by the manufacturer according to the Regulations for conformity marks (ÜZVO) of the countries.

According to the regional building regulation of the countries, the Ü mark must be attached to the building project, the dispatch note or to its packaging or, in case of difficulties, to the delivery note or to an attachment to the delivery note together with the compulsory information.

Labeling with the Ü mark in consideration of number of this national technical test certificate may only be done if the prerequisite according to section 3 are fulfilled.

5 Legal basis

This national technical test certificate is granted on the basis of §19 and §22 of the regional building codes for Baden-Wurttemberg (LBO) in the version of March 5, 2010 (last amendment on December 21, 2021), in conjunction with the Building Rules List A, part 2, ser. no. 2.17, edition 2016/2.

A granted national technical test certificate applies in all countries of the Federal Republic of Germany according to §19, section 7 of the Model Building Regulation (MBO) and the corre-

sponding provisions of the respective regional building codes. The stipulation of the characteristic forces given in the annexes is based upon test results that are documented in report no. 168001, 178005 and 2180005 of the Versuchsanstalt für Stahl, Holz und Steine.

Karlsruhe, July 28, 2022 ak/DR

Official in charge Head of the Inspection Body

A. Wallner, M.Sc. Dr.-Ing. D. Ruff

Overview of the Annexes:

Fastener and wall bracket	Component I (wall bracket)	Component II (substructure)	Annex
JT4-2/5-5,0x25-VARIO, JT9-2/5-5,0x25-VARIO, JT3-2/5-5,0x30-VARIO, JT6-2/5-5,0x30-VARIO Wall bracket Annex 3.1	aluminum $R_m \geq 190 N/mm^2$, $R_{p0,2} \geq 150 N/mm^2$	aluminum $R_m \geq 190 N/mm^2$, $R_{p0,2} \geq 150 N/mm^2$	2.1
	aluminum $R_m \geq 215 N/mm^2$, $R_{p0,2} \geq 160 N/mm^2$	aluminum $R_m \geq 215 N/mm^2$, $R_{p0,2} \geq 160 N/mm^2$	2.2
	aluminum $R_m \geq 245 N/mm^2$, $R_{p0,2} \geq 200 N/mm^2$	aluminum $R_m \geq 245 N/mm^2$, $R_{p0,2} \geq 200 N/mm^2$	2.3
JT4-2/5-5,0x25-VARIO, JT9-2/5-5,0x25-VARIO, JT3-2/5-5,0x30-VARIO, JT6-2/5-5,0x30-VARIO Wall bracket Annex 3.2	stainless steel 1.4301, 1.4401 or 1.4404 $R_m \geq 550 N/mm^2$, $R_{p0,2} \geq 275 N/mm^2$	aluminum $R_m \geq 190 N/mm^2$, $R_{p0,2} \geq 150 N/mm^2$	2.4
		aluminum $R_m \geq 215 N/mm^2$, $R_{p0,2} \geq 160 N/mm^2$	2.5
		aluminum $R_m \geq 245 N/mm^2$, $R_{p0,2} \geq 200 N/mm^2$	2.6

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.1,** **$t \geq 2{,}0$ mm, $R_m \geq 190$ N/mm², $R_{p0,2} \geq 150$ N/mm²**	**Support profile e.g. L- or T-profile,** **$R_m \geq 190$ N/mm², $R_{p0,2} \geq 150$ N/mm**

Materials:

JT4-2/5-5,0x25-VARIO

stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

JT9-2/5-5,0x25-VARIO

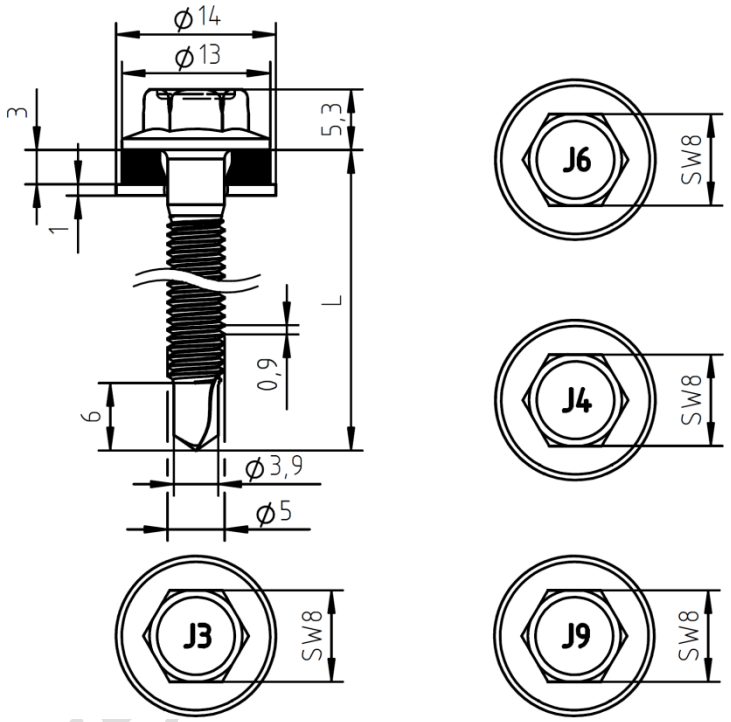
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

JT3-2/5-5,0x30-VARIO

stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

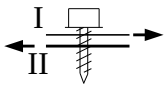
JT6-2/5-5,0x30-VARIO

stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel



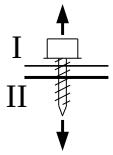
Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)		Component II			
		1,5 mm	2,0 mm	2,5 mm	3,0 mm
Sliding point wind suction	2,0 mm	1,36	1,94	1,94	1,94
	3,0 mm	1,36	2,88	2,88	2,88
Fixed point dead load / wind suction	2,0 mm	1,55	2,60	2,60	2,60
	3,0 mm	1,55	3,21	3,21	3,21



Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Fixed point	1,08	1,46	2,14	2,82



Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.1,** **t ≥ 2,0 mm, R_m ≥ 215 N/mm², $R_{p0,2}$ ≥ 160 N/mm²**	**Support profile e.g. L- or T-profile,** **R_m ≥ 215 N/mm², $R_{p0,2}$ ≥ 160 N/mm**

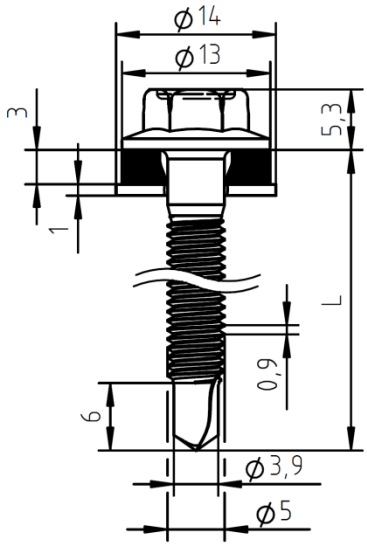
Materials:

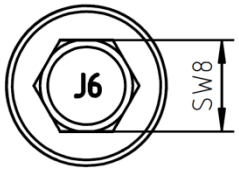
JT4-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

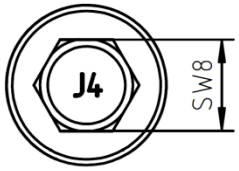
JT9-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

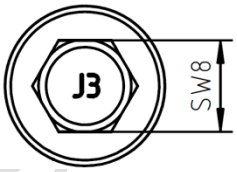
JT3-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

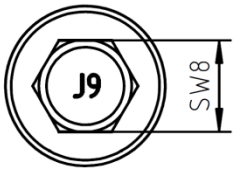
JT6-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel





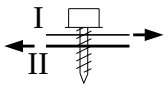






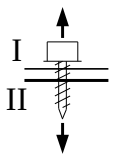
Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)		Component II			
		1,5 mm	2,0 mm	2,5 mm	3,0 mm
Sliding point wind suction	2,0 mm	1,45	2,19	2,19	2,19
	3,0 mm	1,45	3,26	3,26	3,26
Fixed point dead load / wind suction	2,0 mm	1,65	2,94	2,94	2,94
	3,0 mm	1,65	3,63	3,63	3,63



Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Fixed point	1,22	1,66	2,43	3,19



Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.1,** **$t \geq 2{,}0$ mm, $R_m \geq 245$ N/mm², $R_{p0,2} \geq 200$ N/mm²**	**Support profile e.g. L- or T-profile,** **$R_m \geq 245$ N/mm²,** **$R_{p0,2} \geq 200$ N/mm**

Materials:

JT4-2/5-5,0x25-VARIO

stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

JT9-2/5-5,0x25-VARIO

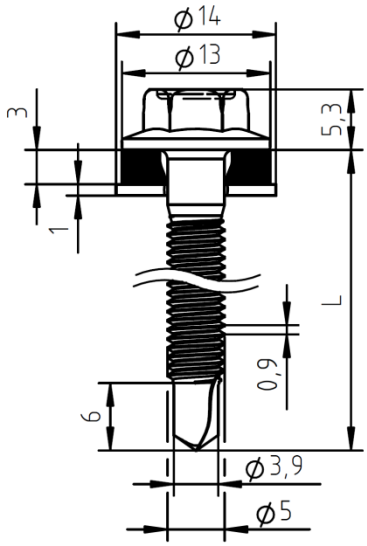
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

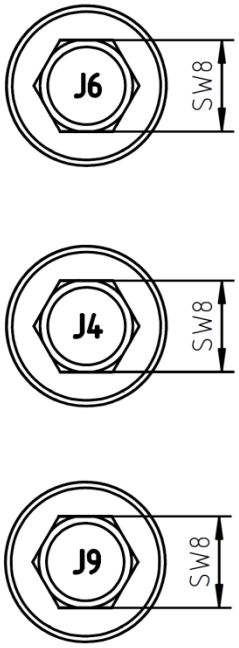
JT3-2/5-5,0x30-VARIO

stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

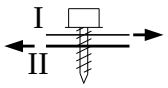
JT6-2/5-5,0x30-VARIO

stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel

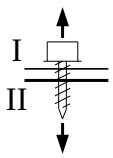




Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)		Component II				
		1,5 mm	2,0 mm	2,5 mm	3,0 mm	
Sliding point wind suction	2,0 mm	1,77	2,50	2,50	2,50	
	3,0 mm	1,77	3,71	3,71	3,71	
Fixed point dead load / wind suction	2,0 mm	2,07	3,35	3,35	3,35	
	3,0 mm	2,07	4,00	4,00	4,00	

Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.1)	Component II				
	1,5 mm	2,0 mm	2,5 mm	3,0 mm	
Fixed point	1,39	1,66	2,47	3,27	

Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.2,** **t ≥ 1,5 mm, R_m ≥ 550 N/mm², $R_{p0,2}$ ≥ 275 N/mm²**	**Support profile e.g. L- or T-profile,** **R_m ≥ 190 N/mm², $R_{p0,2}$ ≥ 150 N/mm**

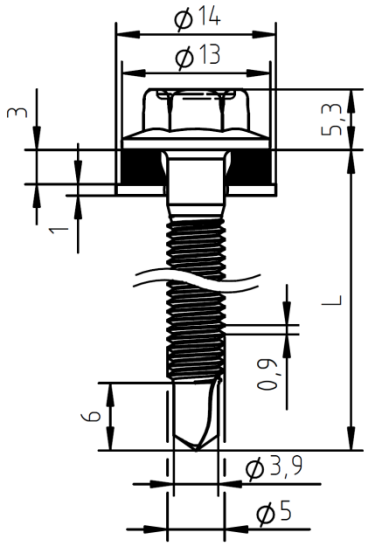
Materials:

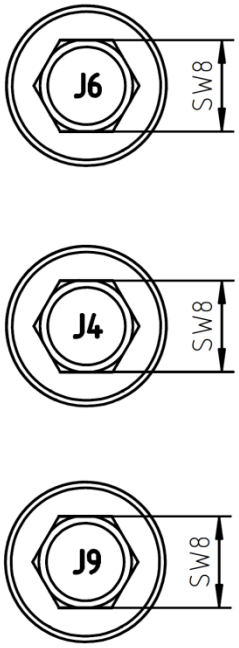
JT4-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

JT9-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

JT3-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

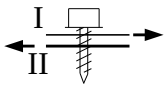
JT6-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel





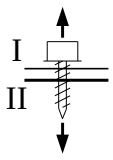
Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Sliding point wind suction	1,91	2,29	2,29	2,29
Fixed point dead load / wind suction	2,02	2,56	2,56	2,56



Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Fixed point	1,08	1,46	2,14	2,82



Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.2,** **$t \geq 1{,}5$ mm, $R_m \geq 550$ N/mm², $R_{p0,2} \geq 275$ N/mm²**	**Support profile e.g. L- or T-profile,** **$R_m \geq 215$ N/mm², $R_{p0,2} \geq 160$ N/mm**

Materials:

JT4-2/5-5,0x25-VARIO

stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

JT9-2/5-5,0x25-VARIO

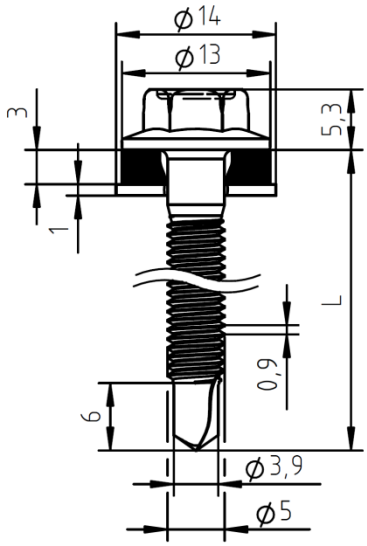
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

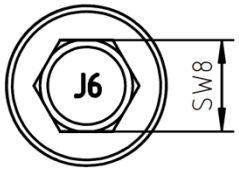
JT3-2/5-5,0x30-VARIO

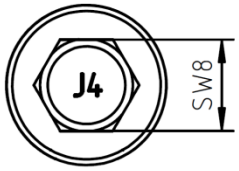
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

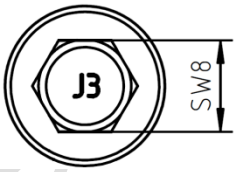
JT6-2/5-5,0x30-VARIO

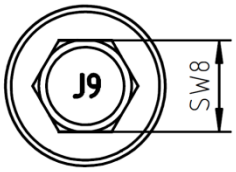
stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel



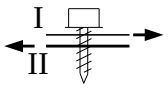




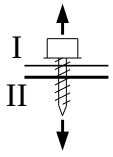




Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II				
	1,5 mm	2,0 mm	2,5 mm	3,0 mm	
Sliding point wind suction	2,11	2,59	2,59	2,59	
Fixed point dead load / wind suction	2,21	2,89	2,89	2,89	

Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II				
	1,5 mm	2,0 mm	2,5 mm	3,0 mm	
Fixed point	1,22	1,66	2,43	3,19	

Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Screw	Component I	Component II
JT4-2/5-5,0x25-VARIO **JT9-2/5-5,0x25-VARIO** **JT3-2/5-5,0x30-VARIO** **JT6-2/5-5,0x30-VARIO**	**Wall bracket according to Annex 3.2,** **t ≥ 1,5 mm, R_m ≥ 550 N/mm², $R_{p0,2}$ ≥ 275 N/mm²**	**Support profile e.g. L- or T-profile,** **R_m ≥ 245 N/mm², $R_{p0,2}$ ≥ 200 N/mm**

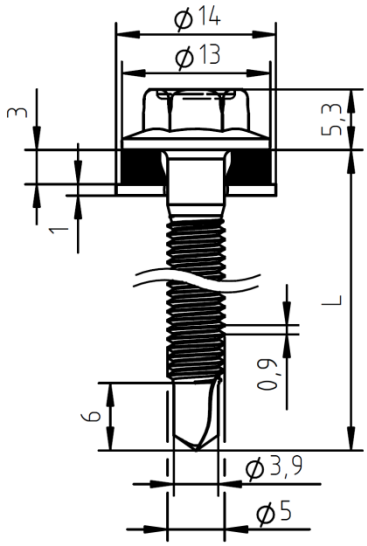
Materials:

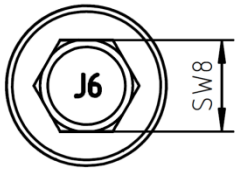
JT4-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2),
1.4567 (A2)

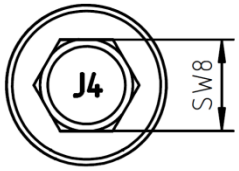
JT9-2/5-5,0x25-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4401 (A4),
1.4578 (A4)

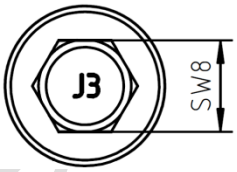
JT3-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no. 1.4301 (A2) ,
1.4567 (A2)
with drill bit made of-
case-hardened steel

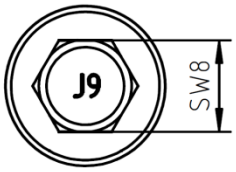
JT6-2/5-5,0x30-VARIO
stainless steel,
DIN EN 10088,
material no 1.4401 (A4) ,
1.4578 (A4)
with drill bit made of-
case-hardened steel





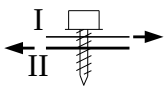






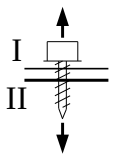
Characteristic value of the transverse force bearing capacity $F_{Q,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Sliding point wind suction	2,11	2,69	2,69	2,69
Fixed point dead load / wind suction	2,21	3,19	3,19	3,19



Characteristic value of the pull-out bearing capacity $F_{Z,A,Rk}$ in [kN]

Component I (wall bracket according to Annex 3.2)	Component II			
	1,5 mm	2,0 mm	2,5 mm	3,0 mm
Fixed point	1,39	1,66	2,47	3,27

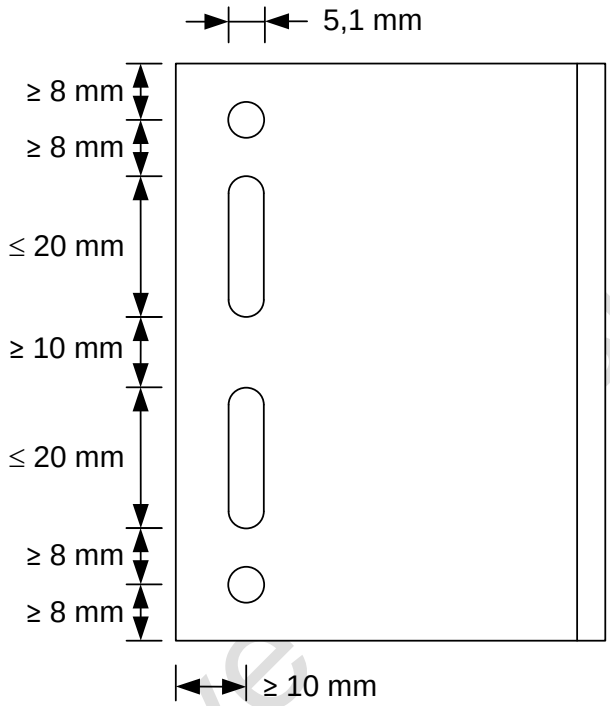


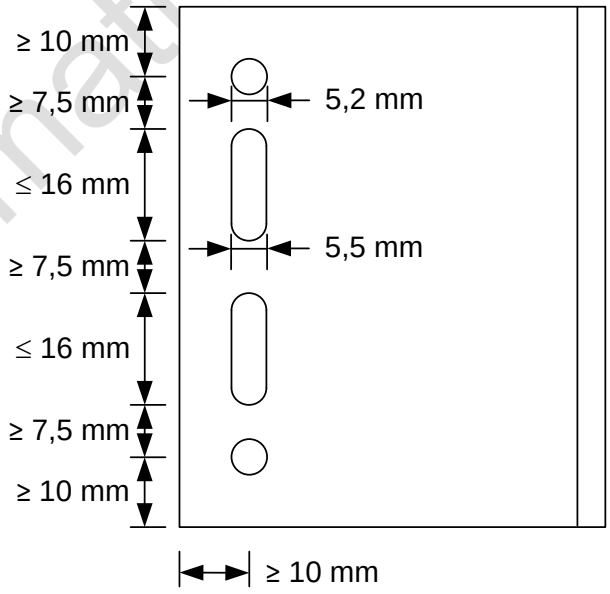
Transverse edge distance support profile: **Sliding point: 50 mm**
Fixed point: 10 mm

Longitudinal edge distance support profile: **10 mm**

Component I	Wall bracket to Annex 2.1 to 2.3	Material: Aluminum, DIN EN 755, alloy group I

Design examples

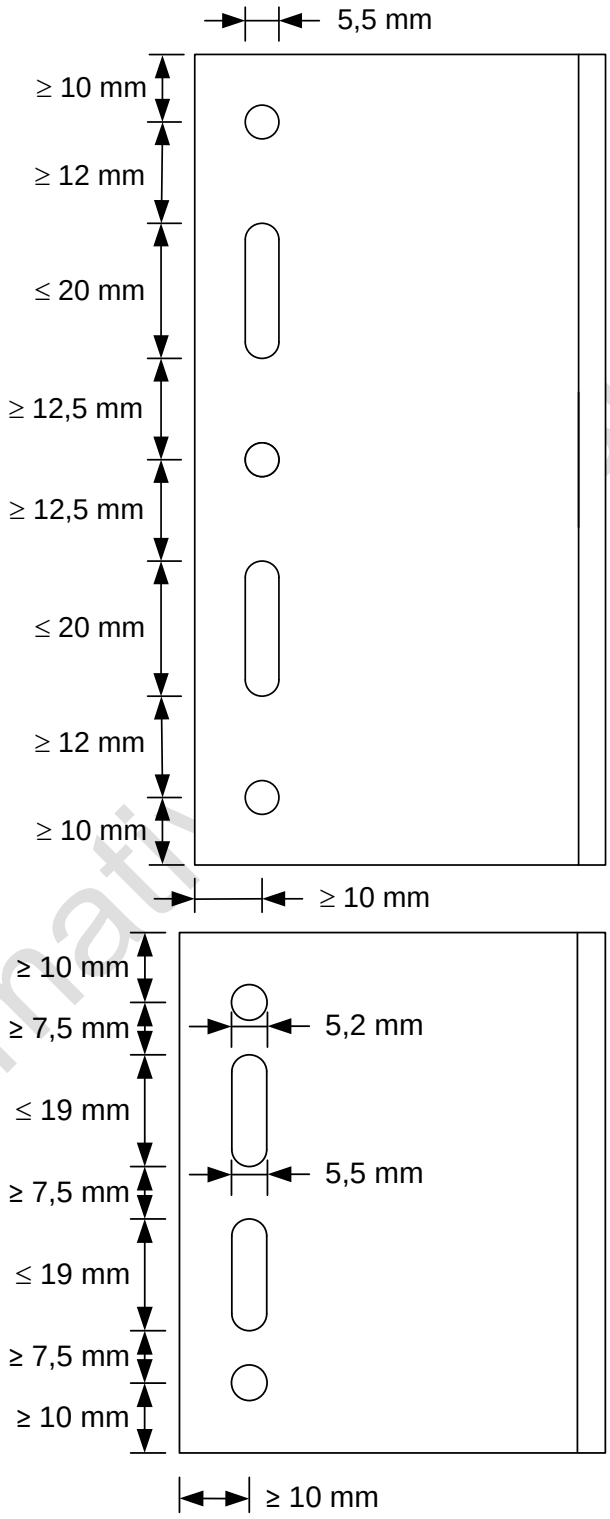




Thickness 2,0 mm ≤ t ≤ 5,0 mm (Annex 2.1 to 2.3)

Component I	Wall bracket to Annex 2.4 to 2.6	Material: Stainless steel, 1.4301, 1.4401 or 1.4404, according to Z-30.3-6; 05.03.2018

Design examples



Thickness 1,5 mm ≤ t ≤ 3,0 mm (Annex 2.4 to 2.6)

Installation instruction