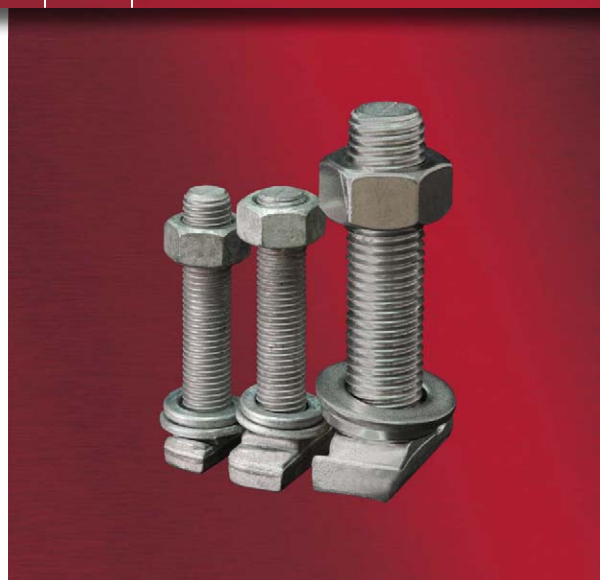
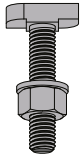
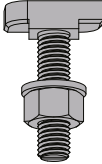
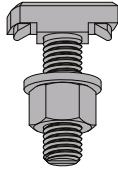
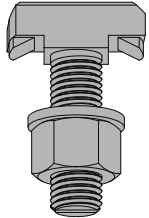




PEC-T
Hammer- and Hook Head Bolts

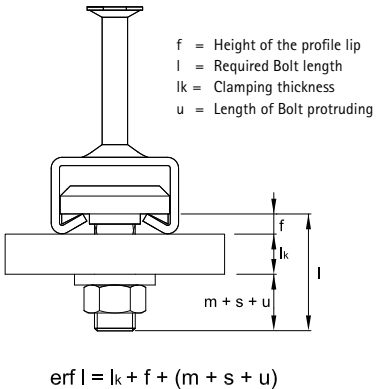
Technical Datasheet
January 2020



PEC-T-Bolts												
Type	Hammer Head Bolts						Hook Head Bolts					
	PEC-T-28/15		PEC-T-38/17		PEC-T-40/22		PEC-T-40/22		PEC-T-50/30		PEC-T-50/30	
All bolts are delivered with nuts DIN 934.												
Material ¹⁾	ezp 8.8, hdg 8.8, A4-70		ezp 8.8, hdg 8.8, A4-70		ezp 8.8, hdg 8.8, A4-70		ezp 8.8, hdg 8.8, A4-70		ezp 8.8, hdg 8.8, A4-70		ezp 8.8, hdg 8.8, A4-70	
Diameter	M 8 - M 12		M 10 - M 16		M 10 - M 16		M 10 - M 16		M 12 - M 20		M 12 - M 20	
Matching profiles	28/15		38/17		40/22 & 40/25		40/22 & 40/25		49/30, 50/30, 52/34, 54/33		49/30, 50/30, 52/34, 54/33	
Length (mm)	15 - 100		20 - 200		20 - 300		20 - 300		30 - 300		30 - 300	
Installation torque												
Diameter	M8	M10	M12	M10	M12	M16	M10	M12	M16	M12	M16	M20
T _{inst} ²⁾ [Nm]	7	10	13	15	25	40	15	25	30	25	60	75

¹⁾ ezp = electro-zinc plated, hdg = hot-dip-galvanized

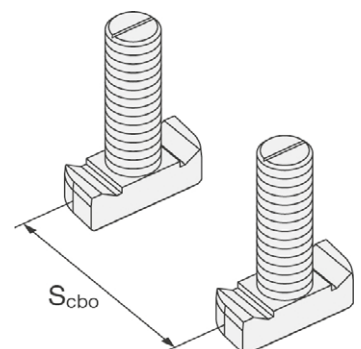
²⁾ T_{inst} must not be exceeded

Determining of minimum T-bolt length																	
Profile	Type	f		Bolt	m+s+u												
		(mm)			(mm)												
28/15	cold	2,3		M 6	8,8		$erf\ l = l_k + f + (m + s + u)$										
38/17	cold	3		M 8	11,3												
40/25	cold	6		M 10	13,9												
49/30	cold	7,5		M 12	17,3												
54/33	cold	8		M 16	21,8												
40/22	hot	6		M 20	27,0												
50/30	hot	8				m = Height of the nut (ISO 4032) s = Thickness of the washer (DIN 125 or DIN 9021)											
52/34	hot	11,5															

Minimum spacing for channel bolts

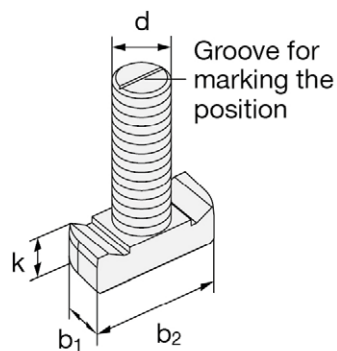
Channel bolt diameter			M8	M10	M12	M16	M20
Minimum spacing between channel bolts	S _{cbo,min}	[mm]	40	50	60	80	100

S_{cbo} = center to center spacing between channel bolts (S_{cbo,min} = 5d)



Channel bolts dimensions

Anchor channel	Channel bolt type	Dimensions			
		d	b ₁	b ₂	k
		[mm]			
PEC-TA-CE 28/15	PEC-T-28/15	8	10.1	22.2	5.0
		10			6.0
		12	11.0		6.0
PEC-TA-CE 38/17	PEC-T-38/17	10	13.0	30.5	6.0
		12			7.0
		16	16.0		7.0
PEC-TA-CE 40/22 PEC-TA-CE 40/25	PEC-T-40/22	10	14.0	33.0	10.5
		12			11.5
		16	17.0		11.5
PEC-TA-CE 49/30 PEC-TA-CE 50/30 PEC-TA-CE 52/34 PEC-TA-CE 54/33	PEC-T-50/30	12	17.0	42.0	14.5
		16			15.5
		20	21.0		15.5



Advice for using Hammer-/Hook Head Bolts PEC-T / Disclaimer

- Anchor channels and channel bolts must be designed according to applicable design codes.
- Always consider load bearing capacity of anchor channels (steel failure or concrete failure) as well as local failure risk due to flexure of channel lips.
- Always consider applicable load values for anchor channels which are usually lower than load values for the channel bolts.
- Always consult and install according to manufacturer's instructions for use.
- Minimum spacing between channel bolts must be considered.
- Channel bolts must be orientated rectangular to the channel axis (mind the groove).
- The required installation torques as stated in manufacturer's instructions for use must be applied and must not be exceeded when fastening connection parts.

Performance data for channel bolts PEC-T carbon steel 8.8

Characteristic resistances under tension and shear load – Steel failure of channel bolts PEC-T

Channel bolt PEC-T carbon steel 8.8				M8	M10	M12	M16	M20
Steel failure								
Characteristic tension resistance	$N_{Rk,s}^{1)}$	[kN]	28/15	22.4	35.4	-	-	-
			38/17	-		35.4	55.8	
			40/22					
			50/30		130.0			
Partial safety factor	$\gamma_{Ms}^{2)}$	[-]	28/15 38/17 40/22 50/30	1.50				
Characteristic shear resistance	$V_{Rk,s}^{1)}$	[kN]	28/15	14.6	23.2	-	-	-
			38/17	-		33.7	62.8	
			40/22					
			50/30		98.0			
Partial safety factor	$\gamma_{Ms}^{2)}$	[-]	28/15 38/17 40/22 50/30	1.25				

¹⁾ In conformity to EN ISO 898-1:1999

²⁾ In conformity to ETA in absence of other national regulations

Attention: Always consider the applicable load values for anchor channels.

Remark: The recommended load values for anchor channels usually are lower than load values for the channel bolts.

Performance data for channel bolts PEC-T stainless steel A4-70

Characteristic resistances under tension and shear load – Steel failure of channel bolts PEC-T

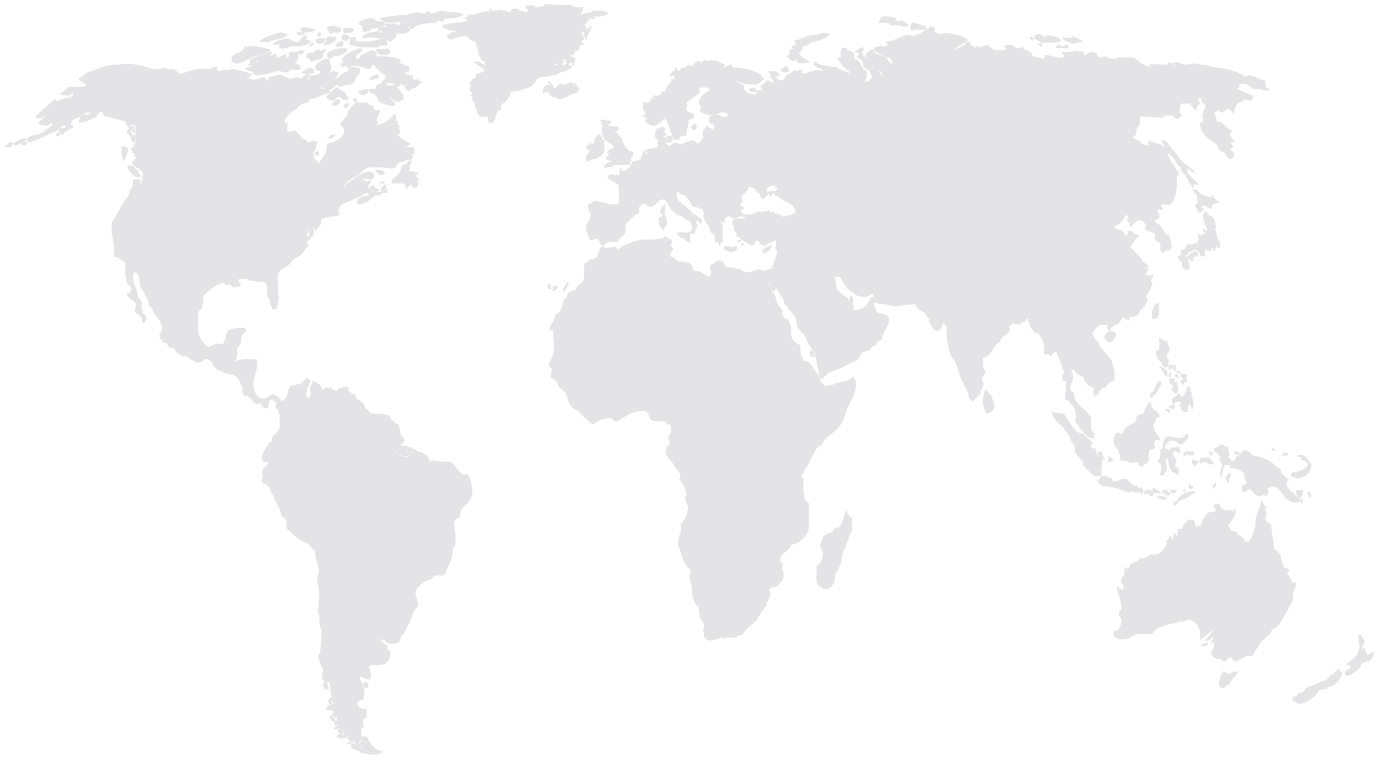
Channel bolt PEC-T stainless steel A4-70				M8	M10	M12	M16	M20
Steel failure								
Characteristic tension resistance	$N_{Rk,s}^{1)}$	[kN]	28/15	20.5	20.5	47.2	53.0	-
			38/17	-				
			40/22			58.6	109.0	
			50/30					
Partial safety factor	$\gamma_{Ms}^{2)}$	[-]	28/15	1,87				
			38/17					
			40/22					
			50/30					
Characteristic tension resistance	$V_{Rk,s}^{1)}$	[kN]	28/15	15.4	24.4	35.4	-	-
			38/17	-			65.9	
			40/22					
			50/30					
Partial safety factor	$\gamma_{Ms}^{2)}$	[-]	28/15	1.56				
			38/17					
			40/22					
			50/30					

¹⁾ In conformity to EN ISO 898-1:1999

²⁾ In conformity to ETA in absence of other national regulations

Attention: Always consider the applicable load values for anchor channels.

Remark: The recommended load values for anchor channels usually are lower than load values for the channel bolts.



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