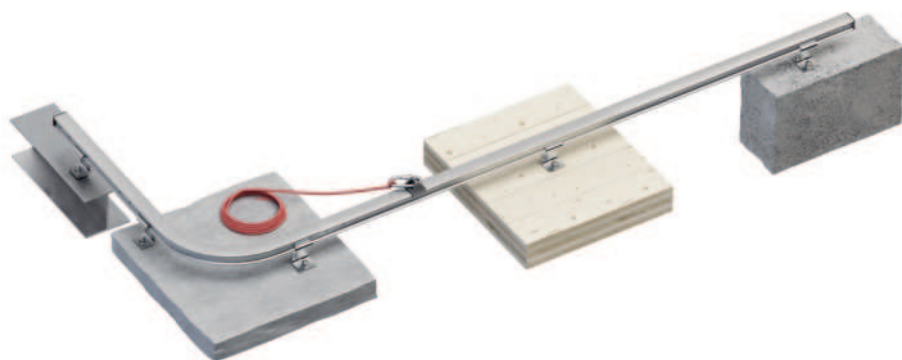
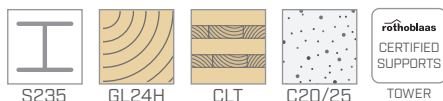
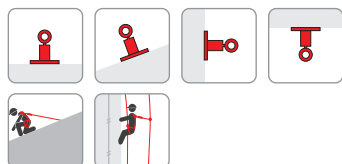


H-RAIL

INSTALLATION MANUAL



EN 795:2012 D
CEN/TS 16415:013
UNI 11578:2015 D



AS/NZS 1991.4:2009
AS/NZS 1991.2:2001



/SPAN

 read also:



H-RAIL
Installation
Manual

+



H-RAIL
Safety
Regulations

=



EN
795:2012
D



CEN/TS
16415:2013



UNI
11578:2015
D



AS/NZS
1891.4:2009



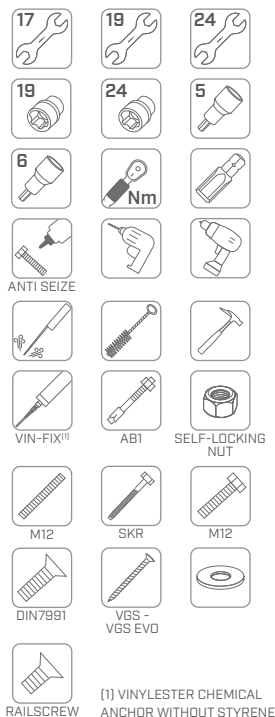
AS/NZS
1891.2:2001

SAFETY INSTRUCTIONS

- IT** L'installazione e/o utilizzo del prodotto Rotho Blaas è permessa solo a personale esperto previa lettura e comprensione del **1** **MANUALE D'INSTALLAZIONE** e delle **2** **NORME DI SICUREZZA** nella lingua del relativo Paese di utilizzo.
- DE** Die Installation und/oder die Verwendung des Produkts von Rotho Blaas ist ausschließlich Fachpersonal vorbehalten, nachdem es das **1** **INSTALLATIONSHANDBUCH** und die **2** **SICHERHEITSVORSCHRIFTEN** in der Sprache des Verwendungszweckes gelesen und verstanden hat.
- EN** Only qualified personnel may install and/or use this Rotho Blaas product, after reading and understanding the **1** **INSTALLATION MANUAL** and the **2** **SAFETY REGULATIONS**, in the language of the country of use.
- ES** La instalación y/o el uso del producto Rotho Blaas solo están permitidos al personal experto después de haber leído y comprendido el **1** **MANUAL DE INSTALACIÓN** y las **2** **NORMAS DE SEGURIDAD** en el idioma del país en el que se utiliza.
- FR** Seul le personnel expérimenté peut installer et/ou utiliser ce produit Rotho Blaas, après avoir lu et compris le **1** **MANUEL D'INSTALLATION** et les **2** **NORMES DE SÉCURITÉ** dans la langue du pays où le produit est utilisé.
- PT** A instalação e/ou utilização do produto Rotho Blaas só é permitida a pessoal especializado após a leitura e compreensão do **1** **MANUAL DE INSTALAÇÃO** e das **2** **NORMAS DE SEGURANÇA** na língua do respetivo país onde será utilizado.
- RU** К установке и (или) использованию продукции Rotho Blaas допускается только высококвалифицированный персонал после обязательного прочтения и усвоения **1** **РУКОВОДСТВО ПО УСТАНОВКЕ** и **2** **ПРАВИЛ ТЕХНИКИ БЕЗОПАСНОСТИ** на языке соответствующей страны использования.
- CS** Instalace a/nebo použití výrobku Rotho Blaas je povoleno pouze odborným osobám po přečtení a pochopení **1** **NÁVODU K INSTALACI** a **2** **BEZPEČNOSTNÍCH PŘEDPISŮ** v jazyce příslušné země použití.
- DA** Kun kvalificeret personale må installere og/eller bruge dette Rotho Blaas-produkt efter at have læst og forstået den **1** **INSTALLATIONSMANUALEN** og **2** **SIKKERHEDSFORSKRIFTERNE** på brugerens sprog.
- EL** Η εγκατάσταση ή/και η χρήση του προϊόντος Rotho Blaas επιτρέπεται μόνο σε έμπειρο προσωπικό που έχει διαβάσει και κατανοήσει τις **1** **ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ** και τους **2** **ΚΑΝΟΝΙΣΜΟΥΣ ΑΣΦΑΛΕΙΑΣ** στη γλώσσα της σχετικής χώρας χρήσης.
- ET** Antud Rotho Blaasi toodet tohib paigaldada ja / või kasutada ainult kvalifitseeritud personal, kes on lugenud kasutamise riigi keeles **1** **PAIGALDUSJUHENDIS** ja **2** **OHUTUSESKIRJU** ning nendest aru saanud.
- FI** Tämän Rotho Blaas -tuotteen asennus ja/tai käyttö on sallittu vain asiantuntevan henkilöstön toimesta sen jälkeen, kun he ovat lukeeneet ja ymmärtäneet **1** **ASENNUSOHJEIDEN** ja **2** **TURVALLISUUSMÄÄRÄYKSET** käyttömaan kielellä.
- HR** Postavljanje i/ili uporaba proizvoda Rotho Blaas dopuštena je samo stručnom osoblju koje je prethodno pročitalo i razumjelo **1** **UPUTA ZA MONTAŽU** kao i **2** **PROPISE O SIGURNOSTI** na jeziku zemlje uporabe.
- HU** A Rotho Blaas terméket kizárólag hozzáértő személyzet szerelheti be és/vagy használhatja, az adott országnak megfelelő nyelven **1** **TELEPÍTÉSI KÉZIKÖNYV** és **2** **BIZTONSÁGI SZABÁLYOK** elolvasása és megértése után.



TOOLS



(1) VINYLESTER CHEMICAL ANCHOR WITHOUT STYRENE

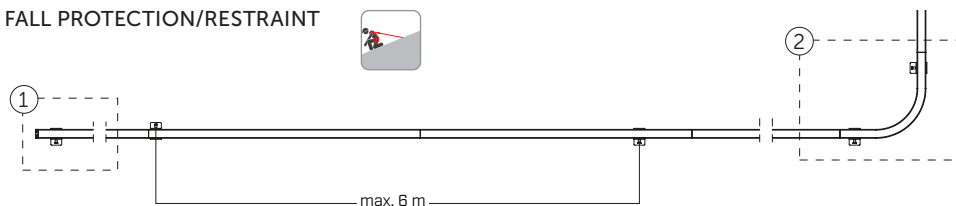
INFORMATIONS

Type	Name or logo of manufacturer/distributor
Rothoblaas	ROTHOBLAAS
H-RAIL	Batch number and year of manufacture
Related standard(s)	N/MM/YYYY
EN 795:2012 D	(N = lot number - MM = month - YYYY = year)
CEN/TS 16415:2013	
UNI 11578:2015 D	

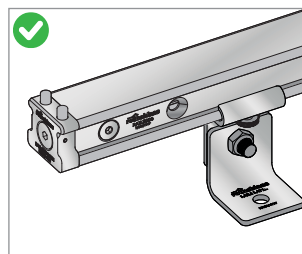
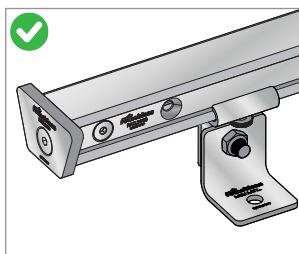
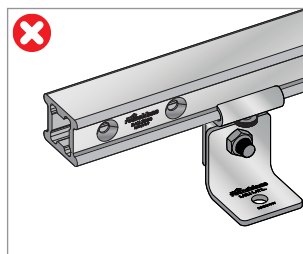
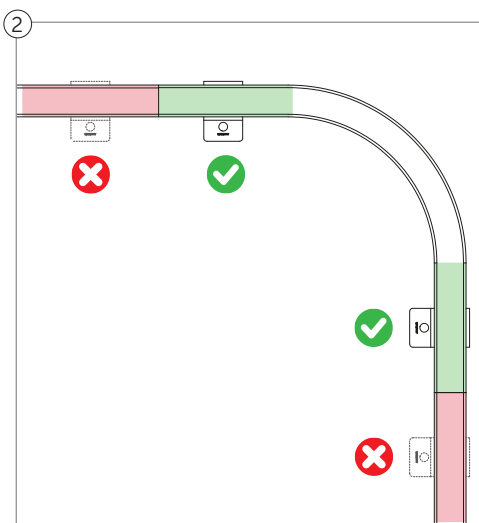
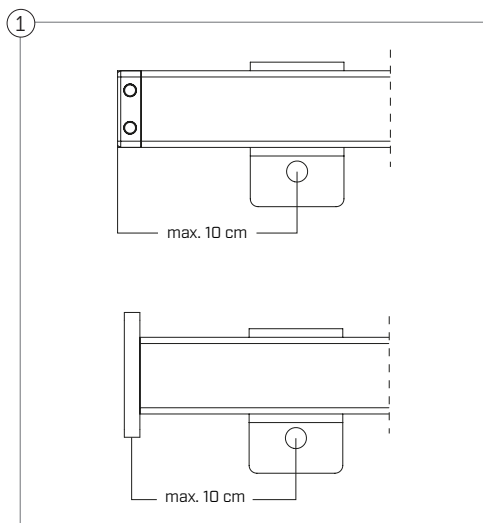
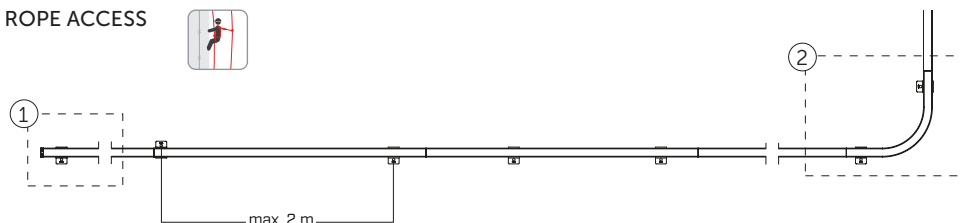
- IT** △ Verificare idoneità statica del sottofondo di montaggio!
- DE** △ Die statische Eignung des Montageuntergrundes sicherstellen!
- EN** △ Check the static suitability of the installation substrate!
- ES** △ ¡Compruebe la idoneidad estática del sustrato de montaje!
- FR** △ Vérifier l'adéquation statique du substrat d'assemblage!

■ TECHNICAL DATA

FALL PROTECTION/RESTRAINT

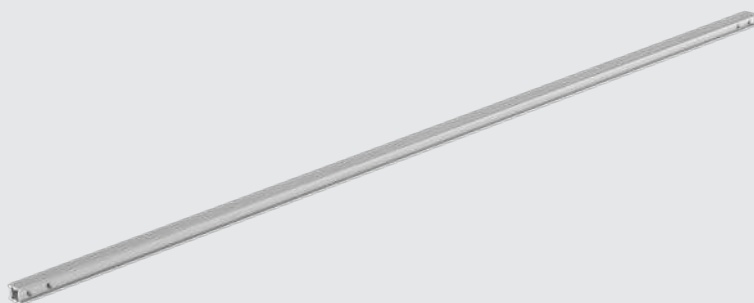
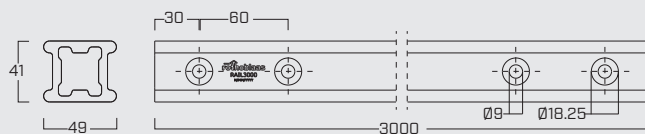


ROPE ACCESS



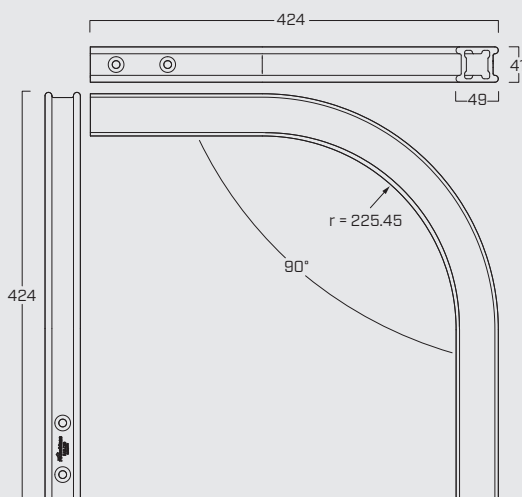
RAIL3000

AL
EN-AW
6063
T6

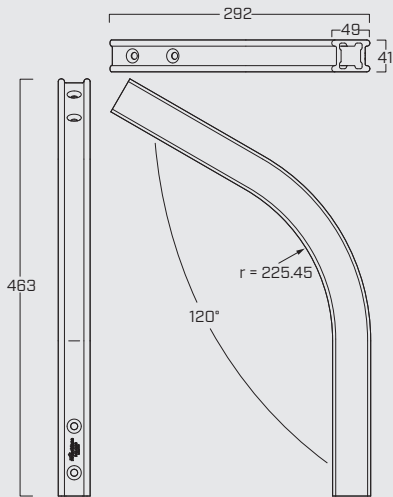


RAILC90

AL
EN-AW
6063
T6



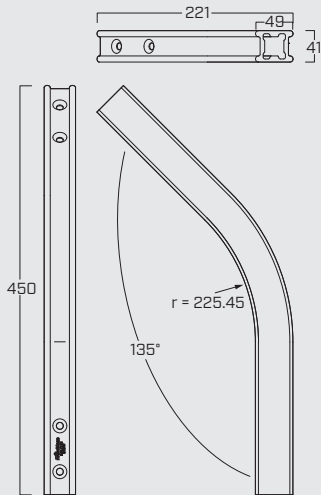
RAILC120



AL
EN-AW
6063
T6



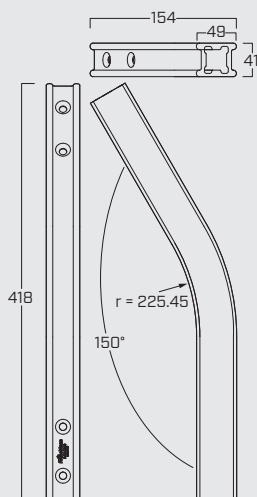
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AL
EN-AW
6063
T6

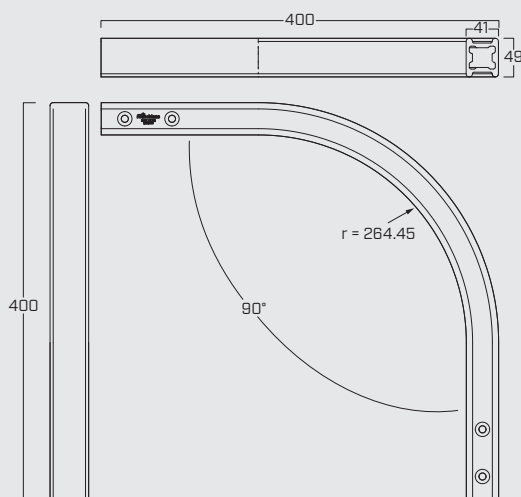


RAILC150



AL
EN-AW
6063
T6

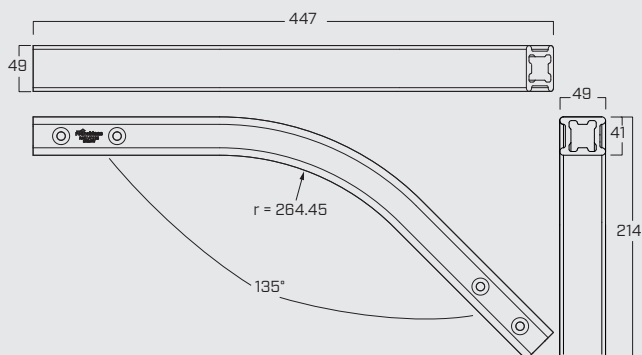
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AL
EN-AW
6063
T6

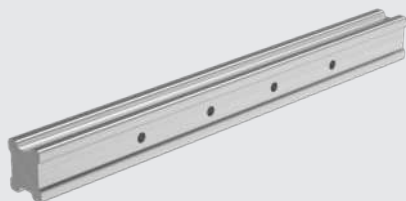
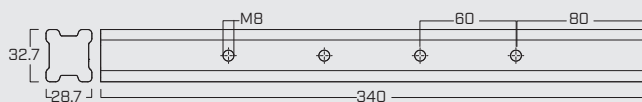
RAILVC135

AL
EN-AW
6063
T6



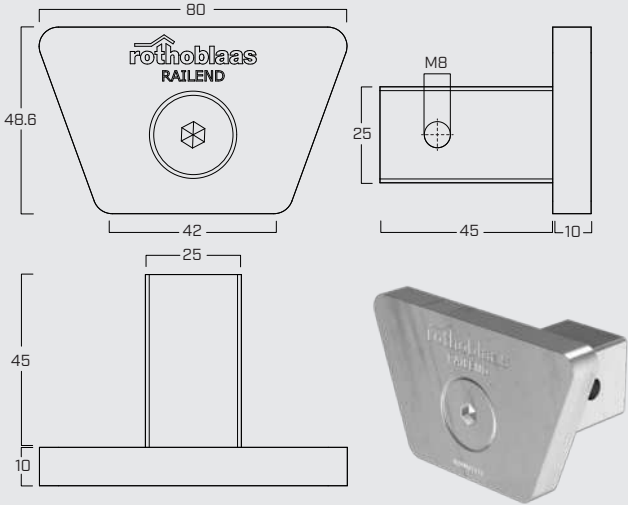
RAILJUN

AL
EN-AW
6062



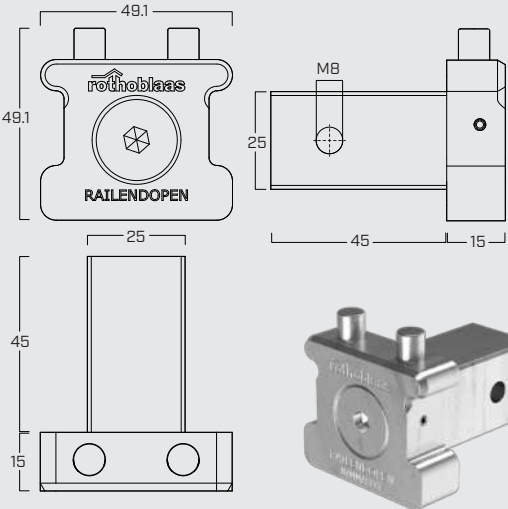
RAILEND

1.4301
AISI304
INOX



RAILVC90

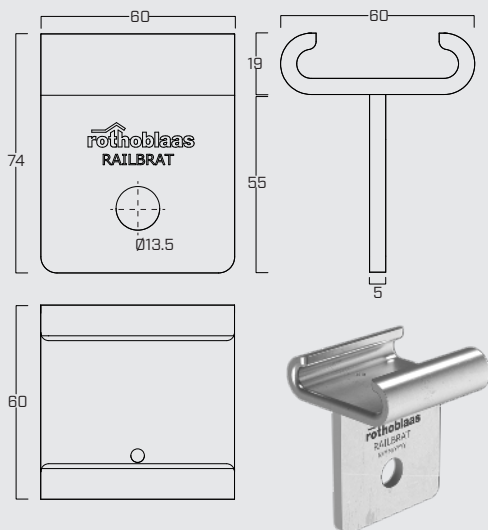
1.4301
AISI304
INOX



RAILBRAT



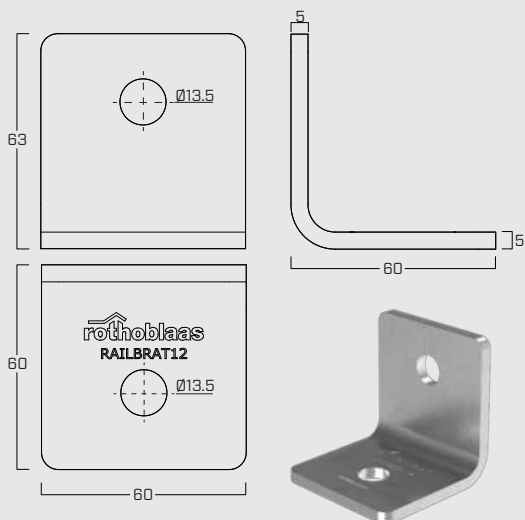
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INOX



RAILBRAT12



1.4301
AISI304
INOX

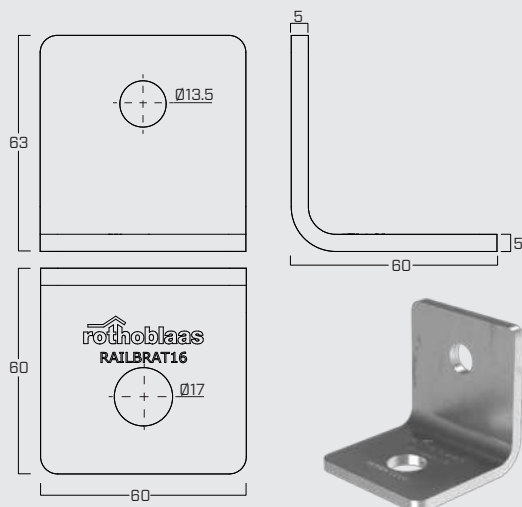


INCLUDED IN THE PACKAGE

RAILBRAT16



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AISI304
INOX

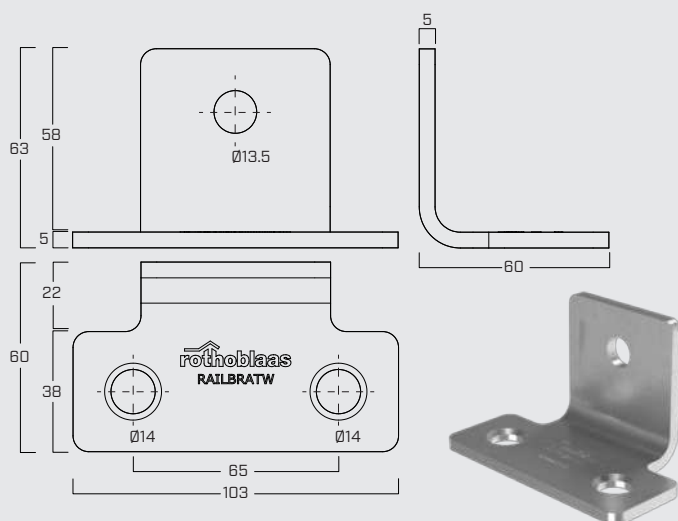


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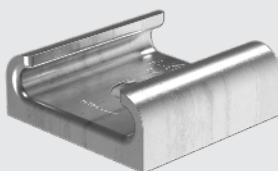
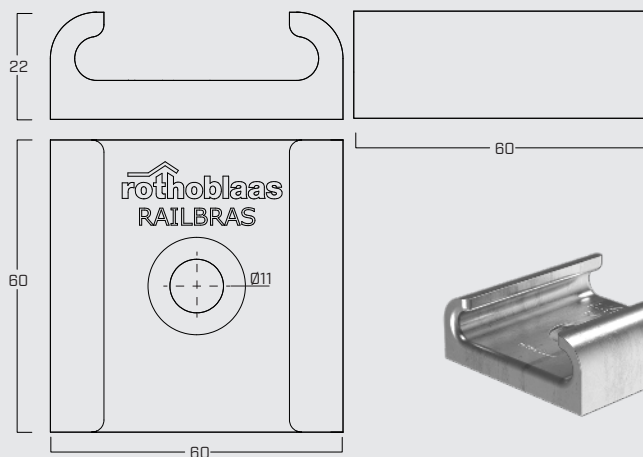


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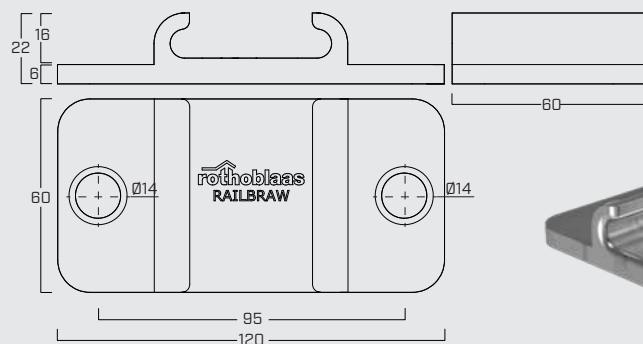


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■ RAILBRAS



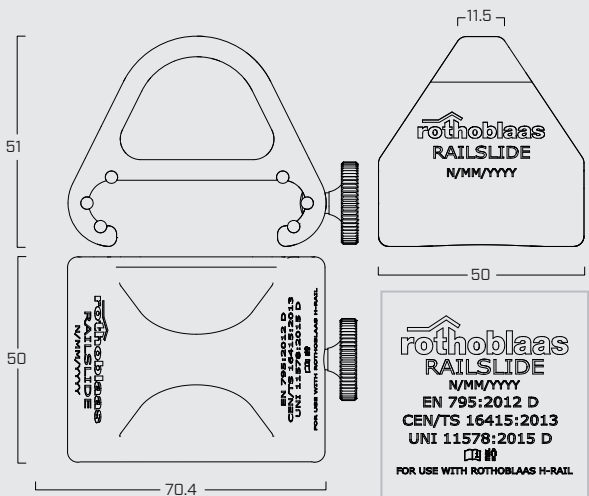
■ RAILBRAW



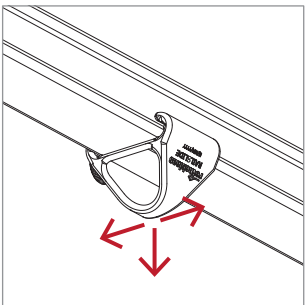
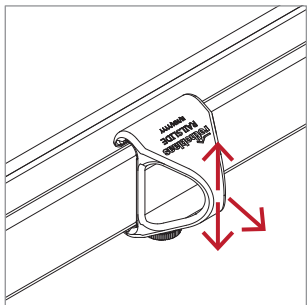
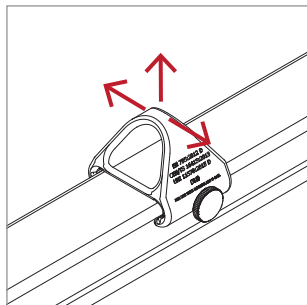
RAILSLIDE

PA.6

1.4301
AISI304
INOX

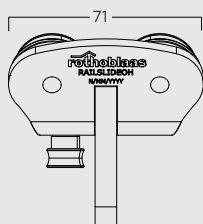
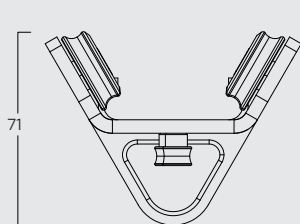


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RAILOCKSCREW

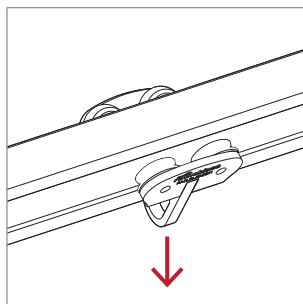
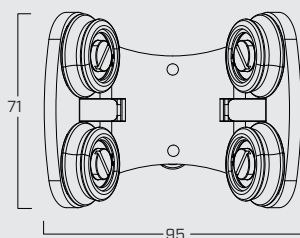


RAILSLIDEOH

1.4301
AISI304
INOX

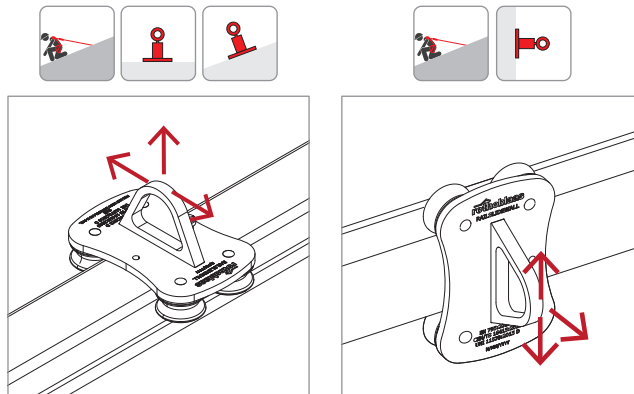
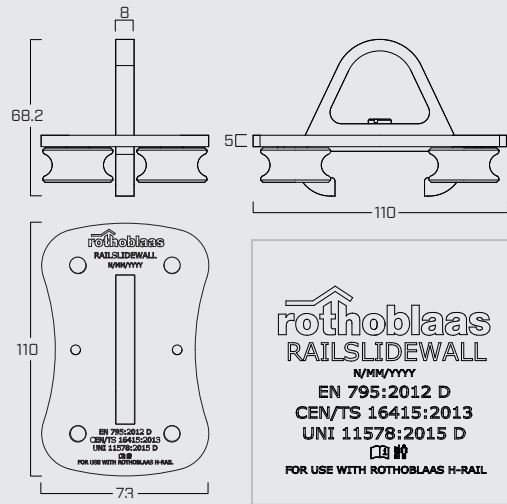


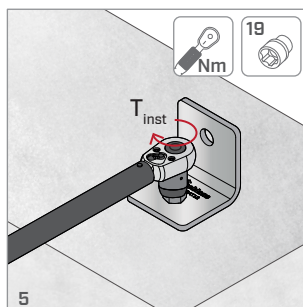
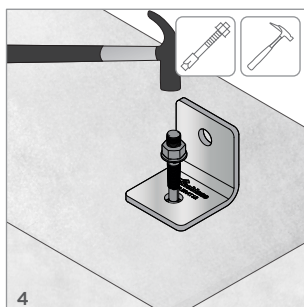
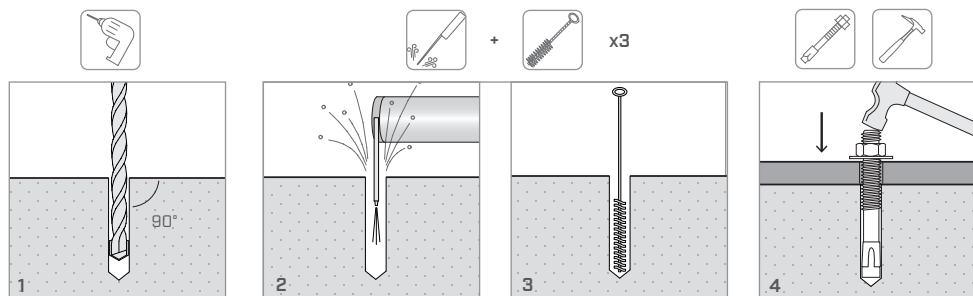
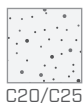
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RAILSLIDEWALL

1.4301
AISI304
INOX

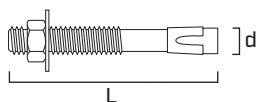
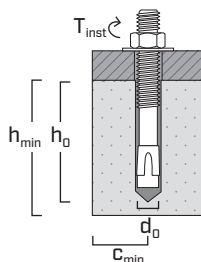




AB112100



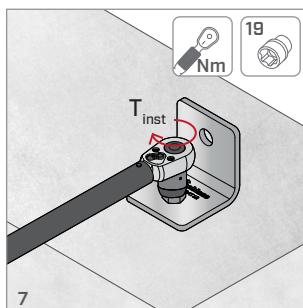
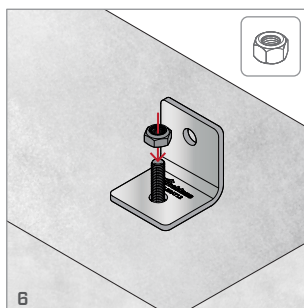
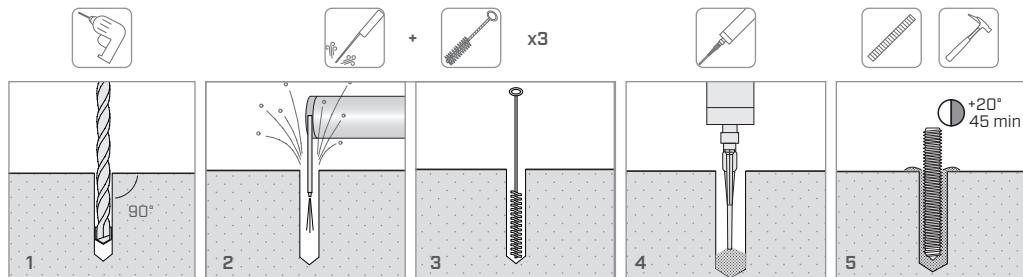
ETA-17/0481



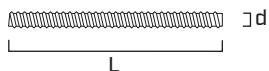
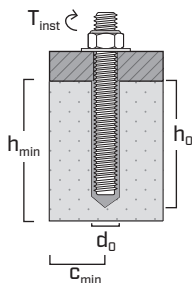
d	$=$	12 mm	d_0	$=$	12 mm
L	$=$	100 mm	h_0	$\geq$	85 mm
T_{inst}	$=$	60 Nm	h_{min}	$=$	140 mm
			c_{min}	$=$	70 mm

CONCRETE INSTALLATION

RAILBRAT12

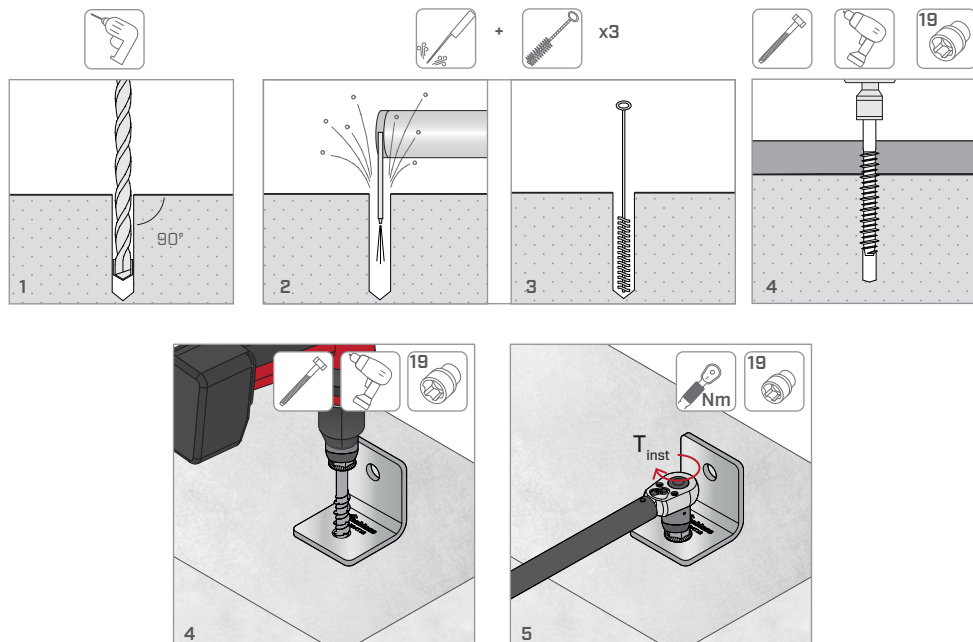
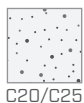


M12 x L - 5.8

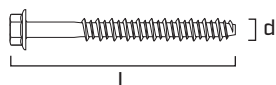
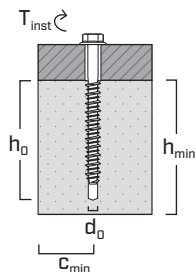


d	=	M12	d_0	=	14 mm
L	≥	100 mm	h_0	=	$L - 30$
T_{inst}	=	40 Nm	h_{min}	=	$h_0 + 30$ mm
			c_{min}	=	60 mm

RAILBRAT12

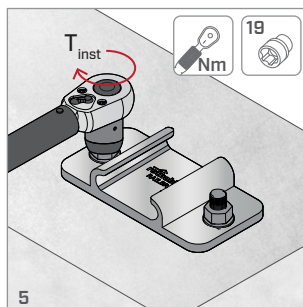
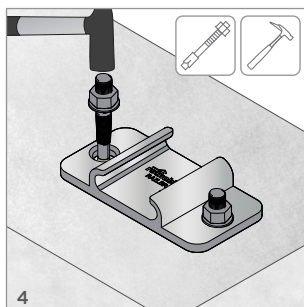
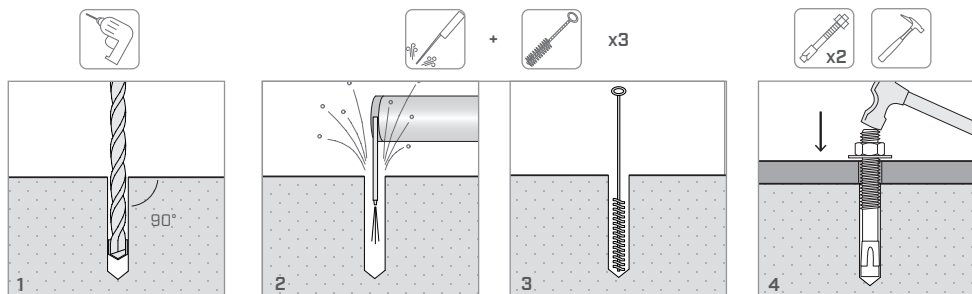


  **SKR CE**
ETA-18/0279
ETA-19/0100



d	$=$	12 mm	d_0	$=$	10 mm
L	$=$	90 mm	h_0	$=$	100 mm
T_{inst}	$=$	80 Nm	h_{min}	$=$	130 mm
			c_{min}	$=$	96 mm

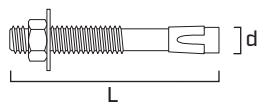
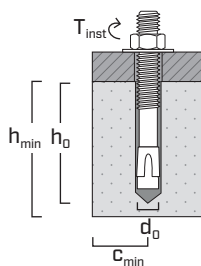
RAILBRAW



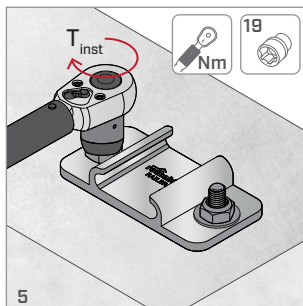
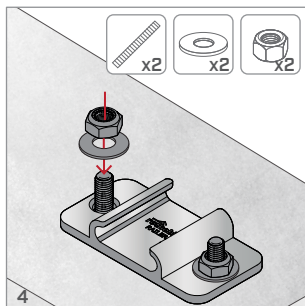
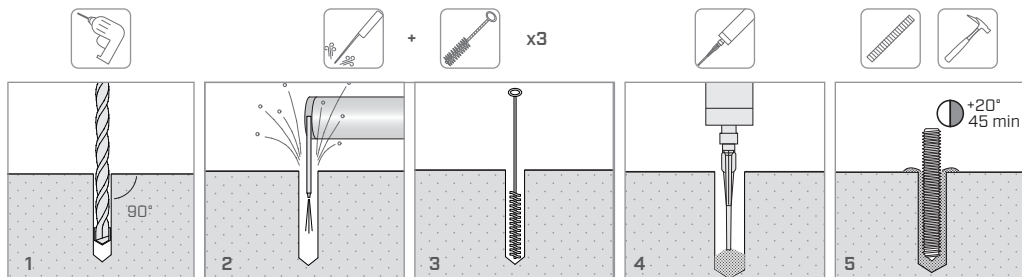
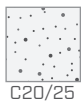
(2 pcs)



ETA-17/0481

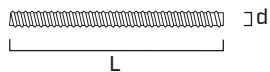
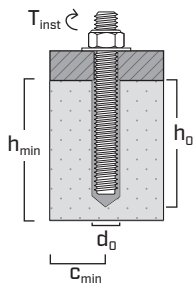


d	$=$	12 mm	d_0	$=$	12 mm
L	$=$	100 mm	h_0	$\geq$	85 mm
T_{Inst}	$=$	60 Nm	h_{min}	$=$	140 mm
			c_{min}	$=$	70 mm

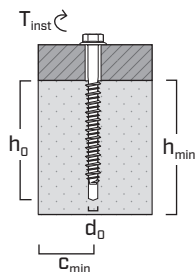
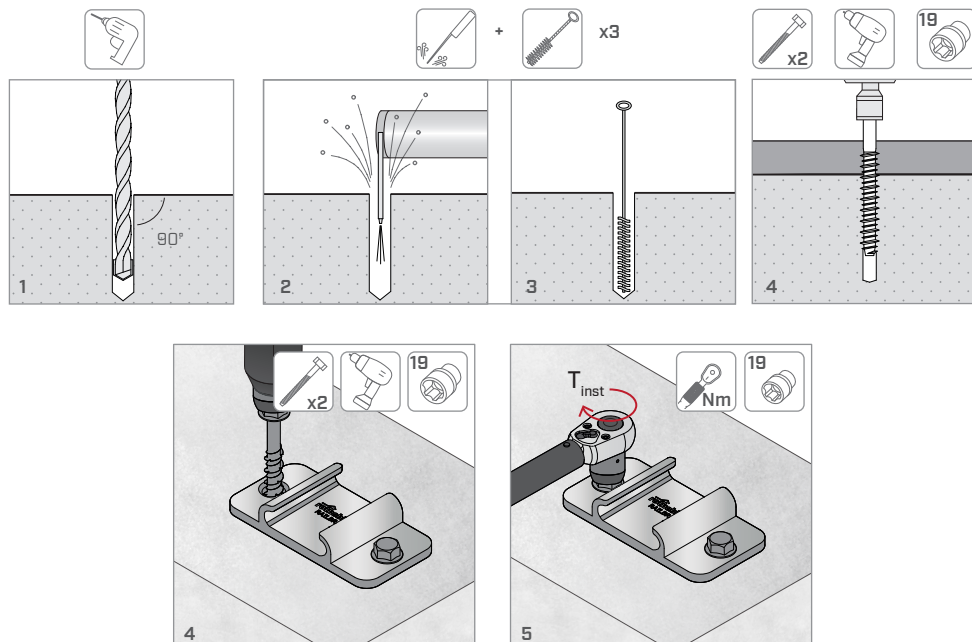
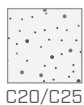


M12 x L - 5.8 min

(2 pcs)

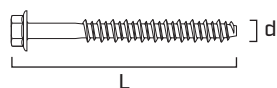


d	=	M12	d_0	=	14 mm
L	≥	100 mm	h_0	=	$L - 30$ mm
T_{inst}	=	40 Nm	h_{min}	=	$h_0 + 30$ mm
			c_{min}	=	60 mm



SKRCE1290

(2 pcs)

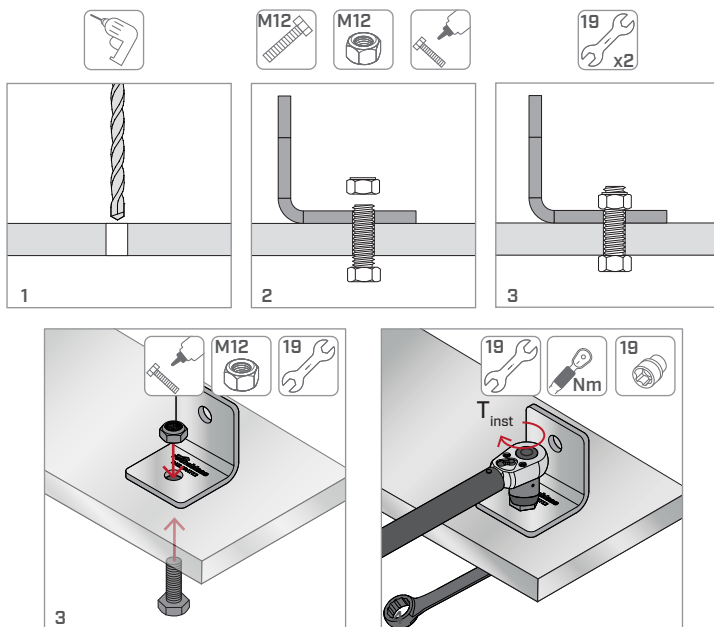


d	=	12 mm	d ₀	=	10 mm
L	=	90 mm	h ₀	=	100 mm
T _{inst}	=	80 Nm	h _{min}	=	130 mm
			c _{min}	=	95 mm

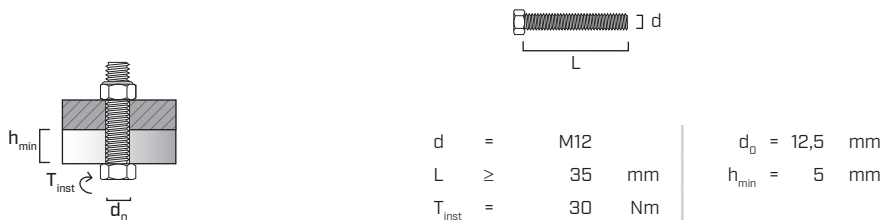


STEEL INSTALLATION

RAILBRAT12

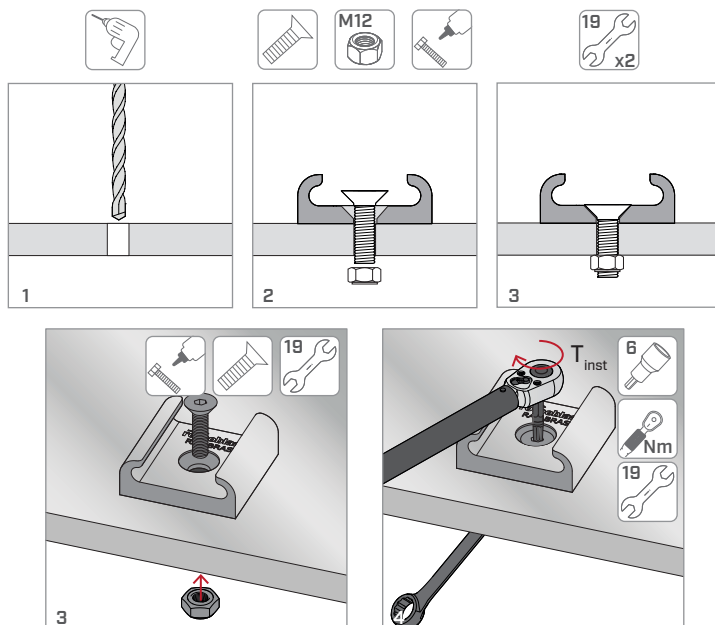


DIN 933
M12 x L - A2-70

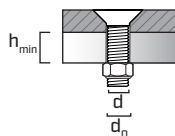
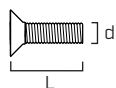


STEEL INSTALLATION

RAILBRAS



DIN7991
M10 x L - A2-70



d =	M10	$d_0 = 10,5 \text{ mm}$
L ≥	35 mm	$h_{min} = 5 \text{ mm}$
A2-70 ▶	$T_{inst} = 15 \text{ Nm}$	



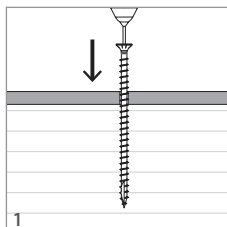
GL24H



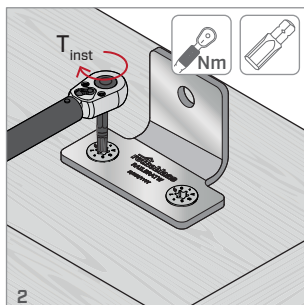
VGS11150
VGSEVO11150



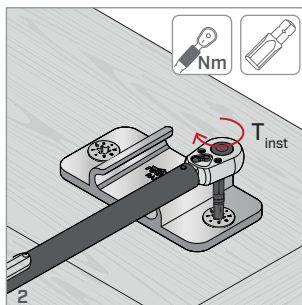
TX50



RAILBRATW

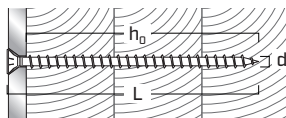
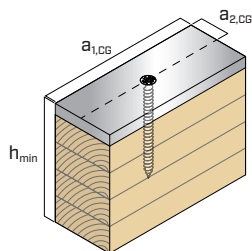


RAILBRAW



VGS11150/ VGSEVO11150

(2 pcs)



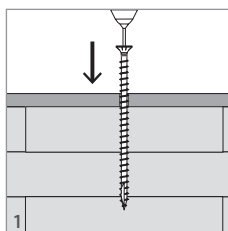
d	=	11	mm	h_0	=	145	mm
L	=	150	mm	h_{min}	>	h_0	
T_{inst}	=	30	Nm	$a_{1,CG}$	=	110	mm
				$a_{2,CG}$	=	44	mm

TIMBER INSTALLATION

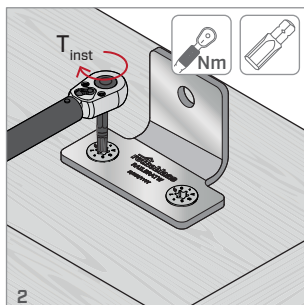
RAILBRATW-RAILBRAW



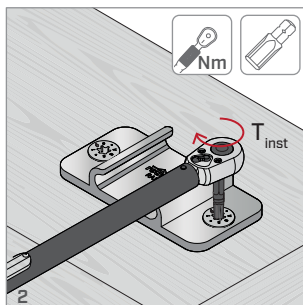
VGS13150
VGSEVO13150



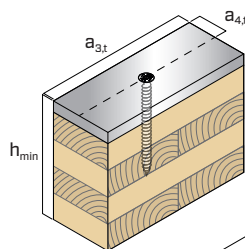
RAILBRATW



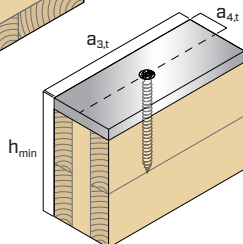
RAILBRAW



EDGE SURFACE

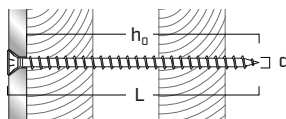


PLANE SURFACE



VGS13150/ VGSEVO13150

(2 pcs)



d = 13 mm
L = 150 mm
T_{inst} = 50 Nm

$h_0 \geq 145$ mm
 $h_{min} \geq h_0$

PLANE SURFACE

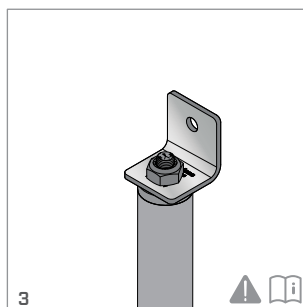
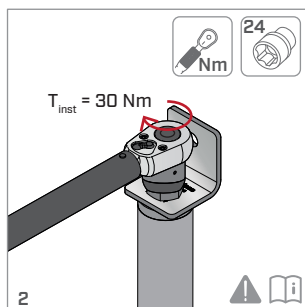
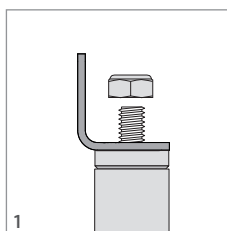
a_{3,t} = 66 mm
a_{4,t} = 66 mm

EDGE SURFACE

a_{3,t} = 132 mm
a_{4,t} = 66 mm

TOWER INSTALLATION

RAILBRAT16



TOWER SUBSTRUCTURES



S235



GL24H



CLT



C20/25



TOWER
TOWER22
TOWERA2



CLT



C20/25



C45/55



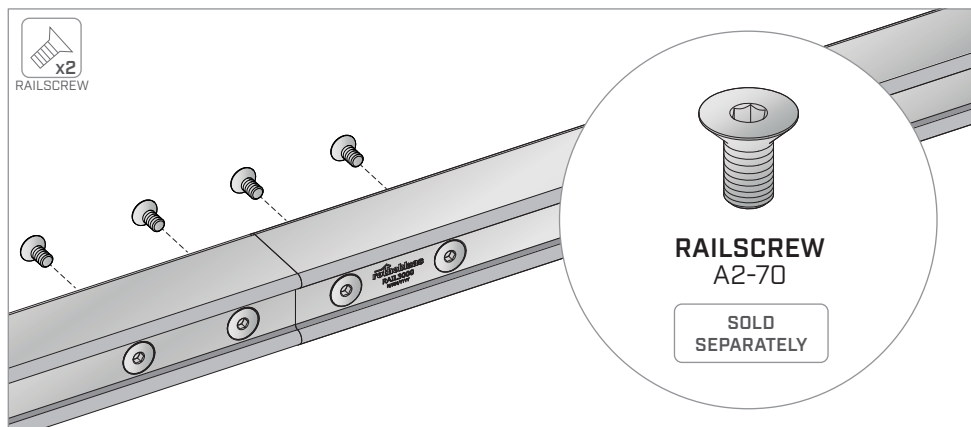
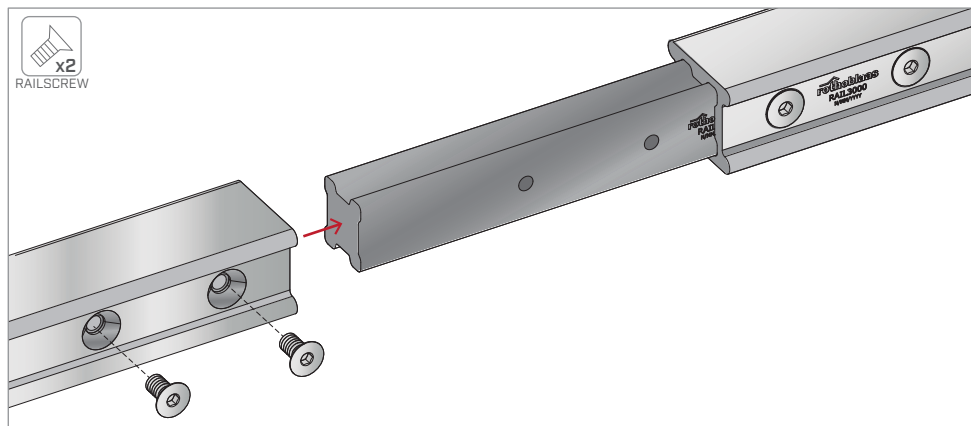
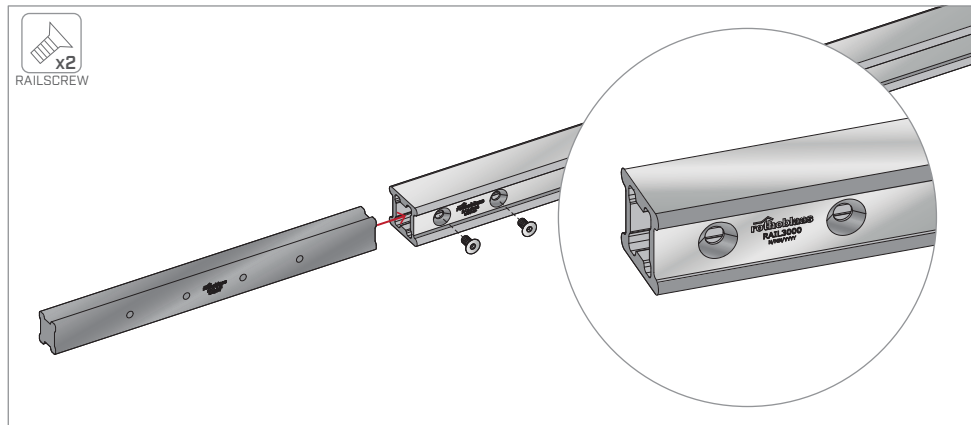
Fe: min 0,75 mm

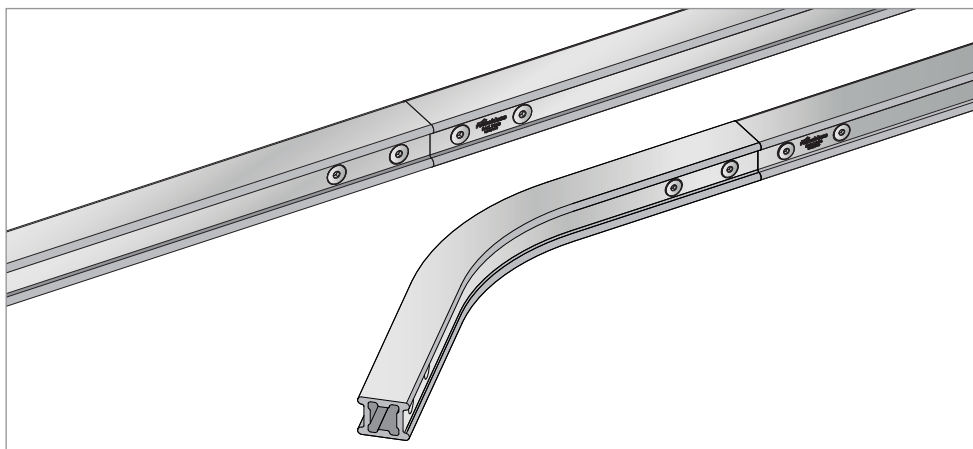
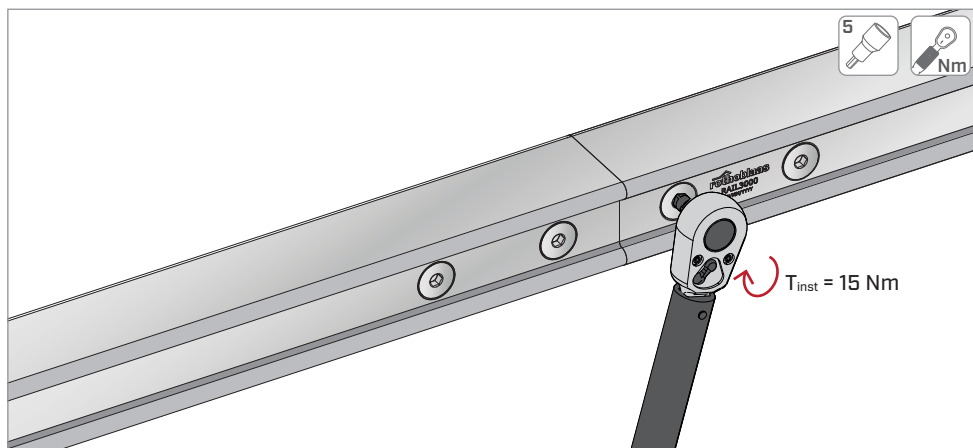
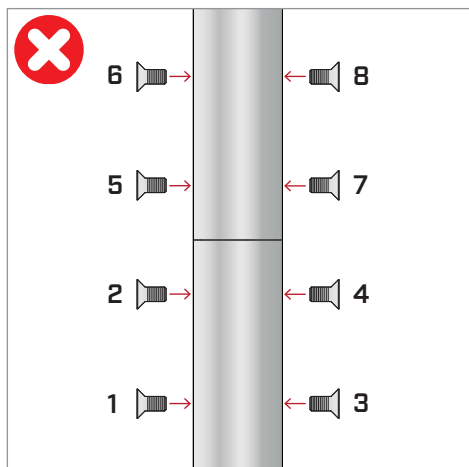
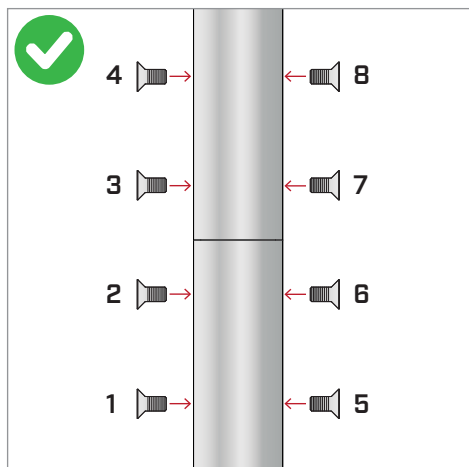


TOWERXL

RAIL INSTALLATION

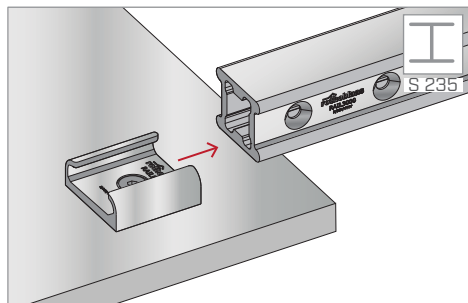
RAIL3000 + RAILJUN





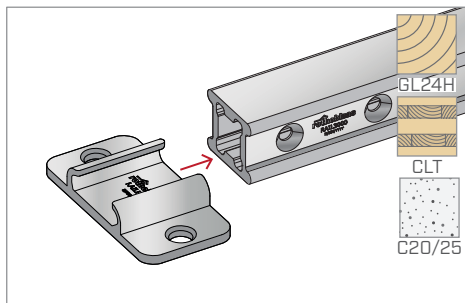
■ SUPPORT INSTALLATION

RAILBRAS + RAIL3000



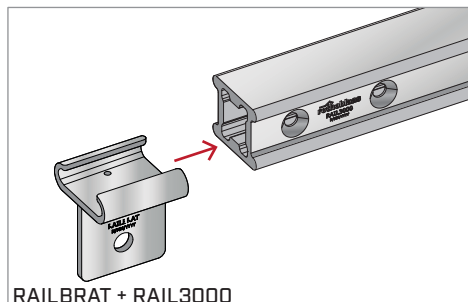
STEEL INSTALLATION ► PAG.42

RAILBRAW + RAIL3000

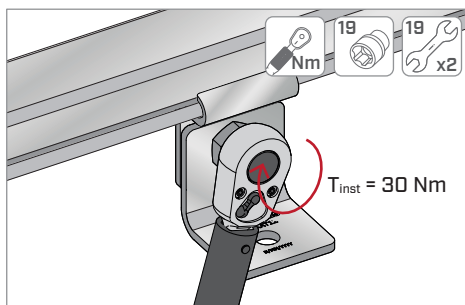
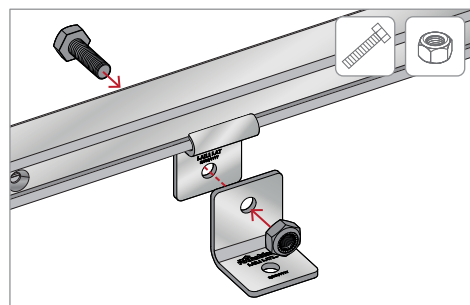
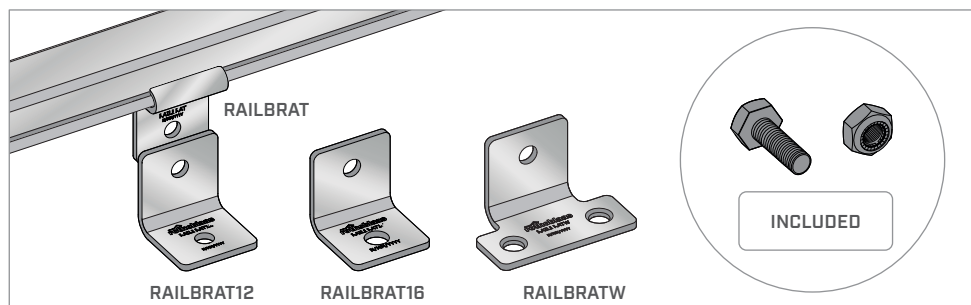
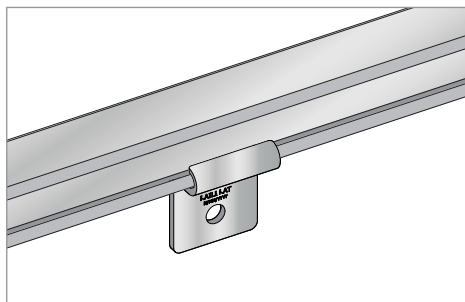


WOOD INSTALLATION ► PAG.38-39-40
CONCRETE INSTALLATION ► PAG.43-44

RAILBRAT

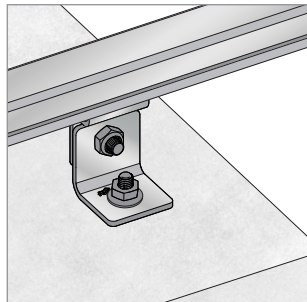


RAILBRAT + RAIL3000



■ SUBSTRUCTURE INSTALLATION

RAILBRAT + RAILBRAT12

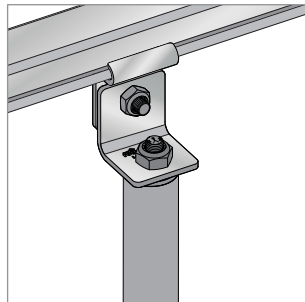


CONCRETE INSTALLATION
➤ PAG.35-36-37



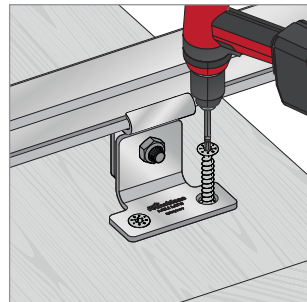
STEEL INSTALLATION
➤ PAG.35-36-37

RAILBRAT + RAILBRAT16



TOWER INSTALLATION
➤ PAG.45

RAILBRAT + RAILBRATW

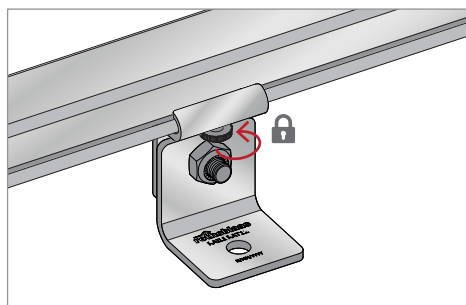
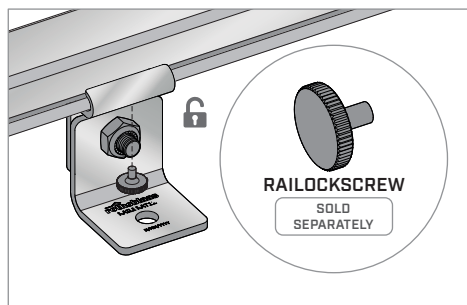


GL24H INSTALLATION
➤ PAG.43



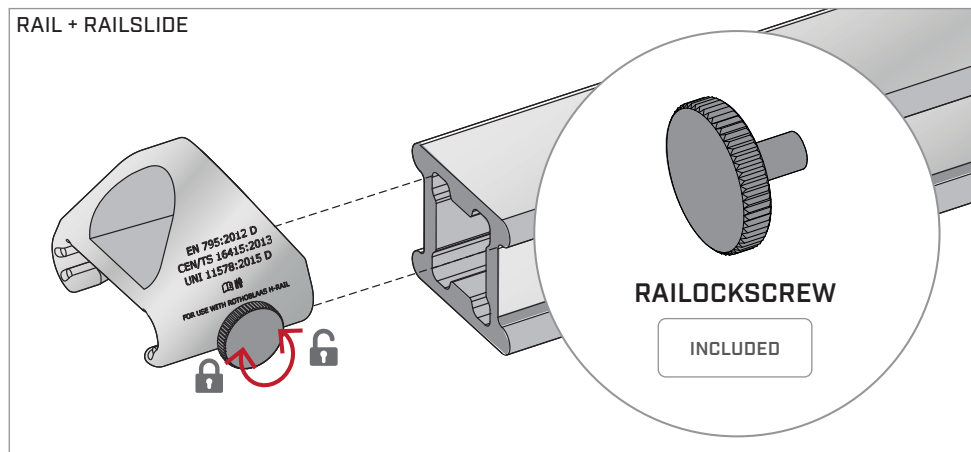
CLT INSTALLATION
➤ PAG.44

■ RAILLOCKSCREW INSTALLATION

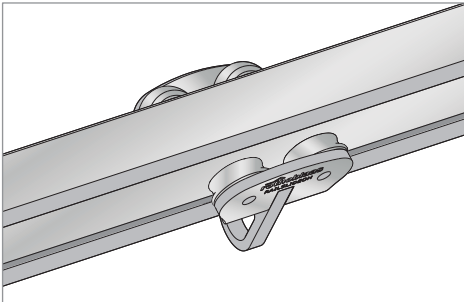
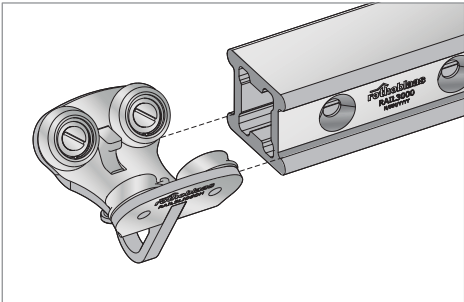


■ SHUTTLE INSTALLATION

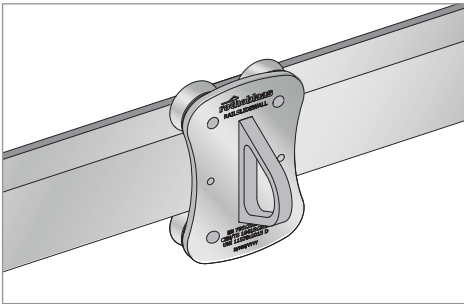
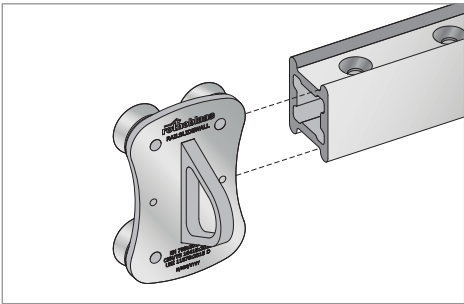
RAIL + RAILSLIDE



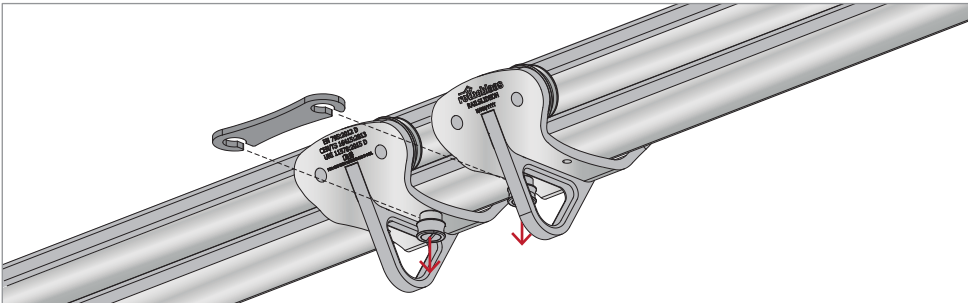
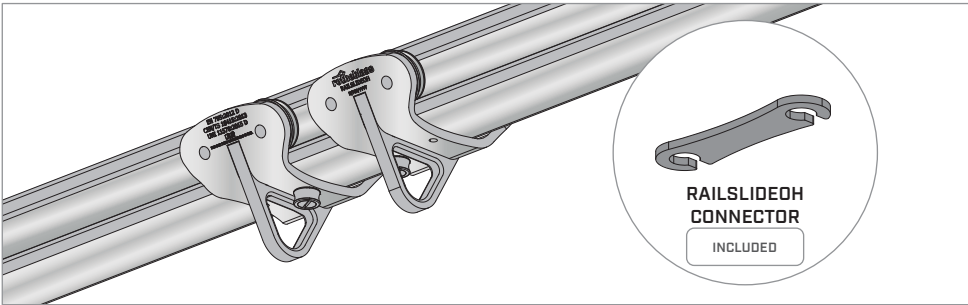
RAIL + RAILSLIDE0H



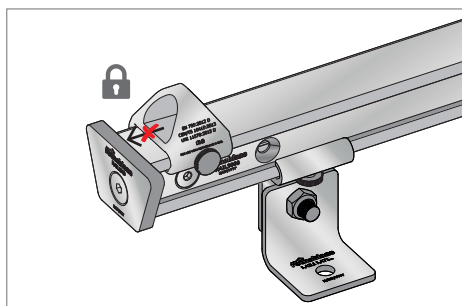
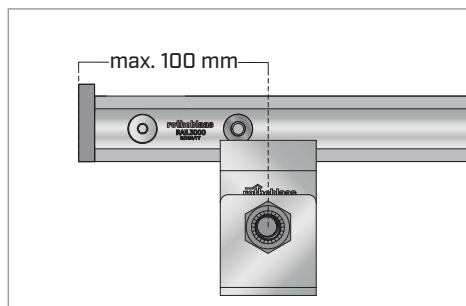
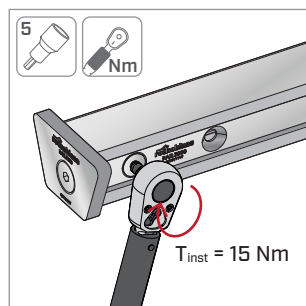
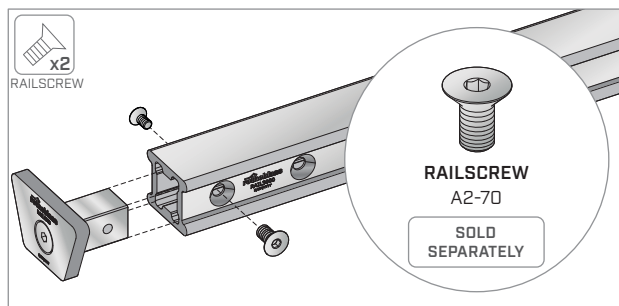
RAIL + RAILSLIDEWALL



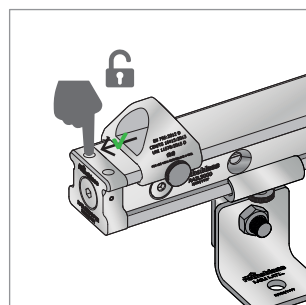
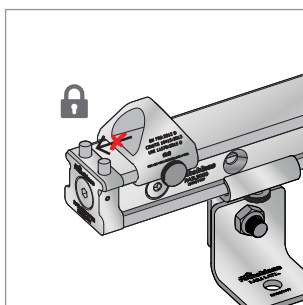
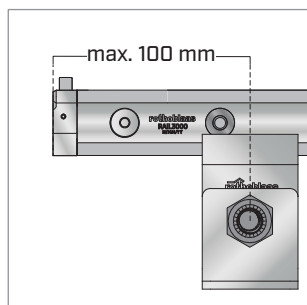
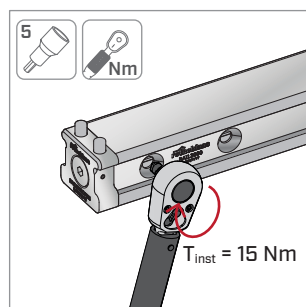
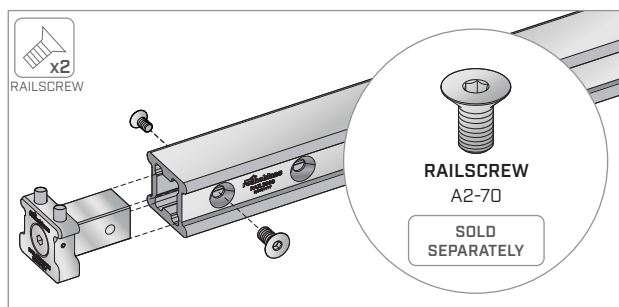
■ SHUTTLE CONNECTION



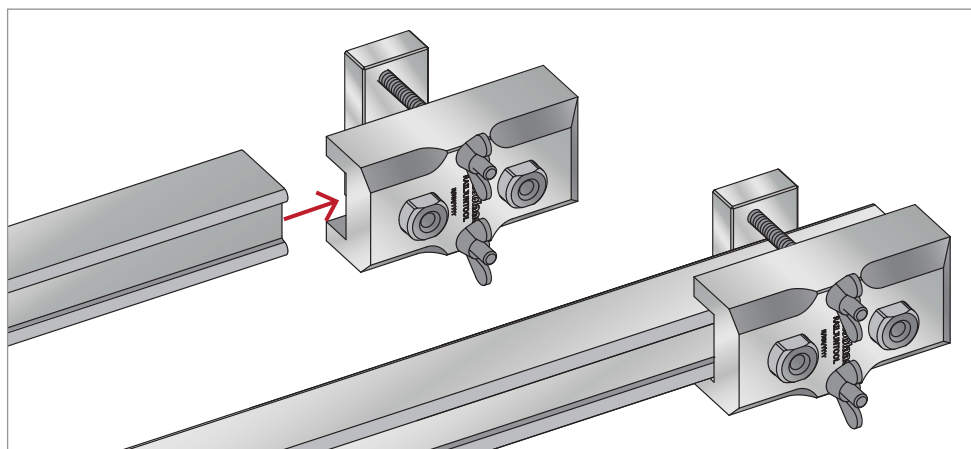
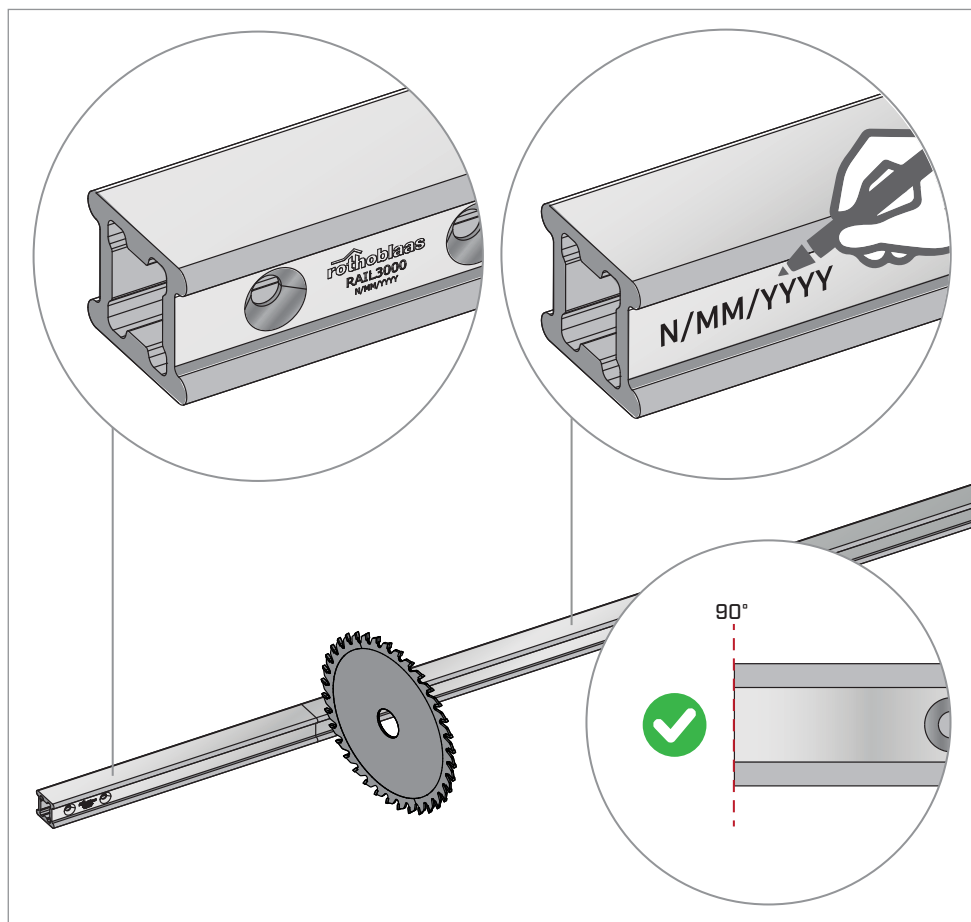
RAILEND INSTALLATION

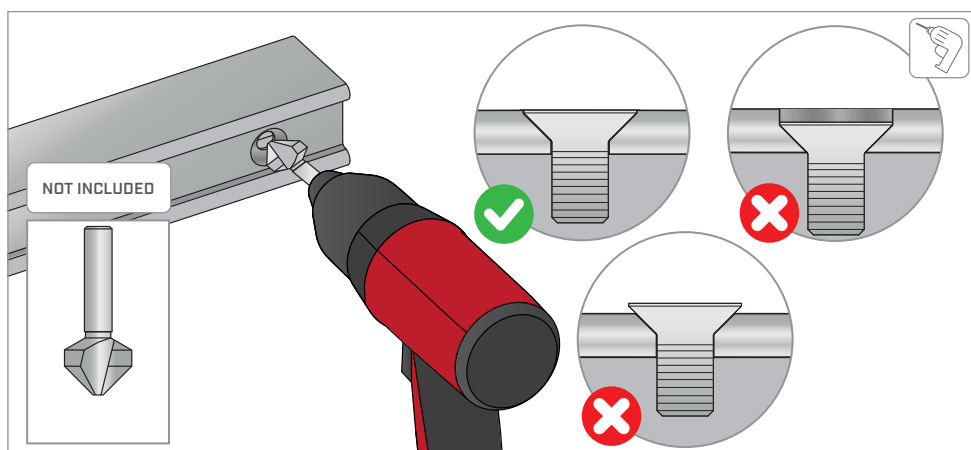
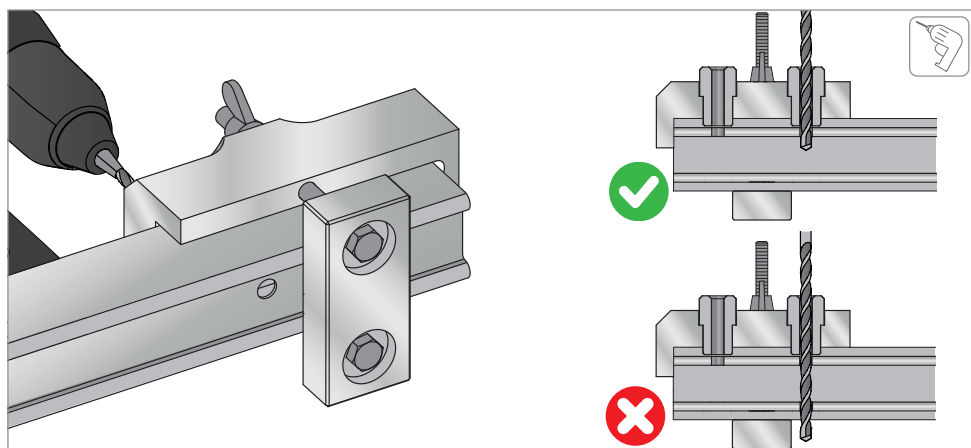
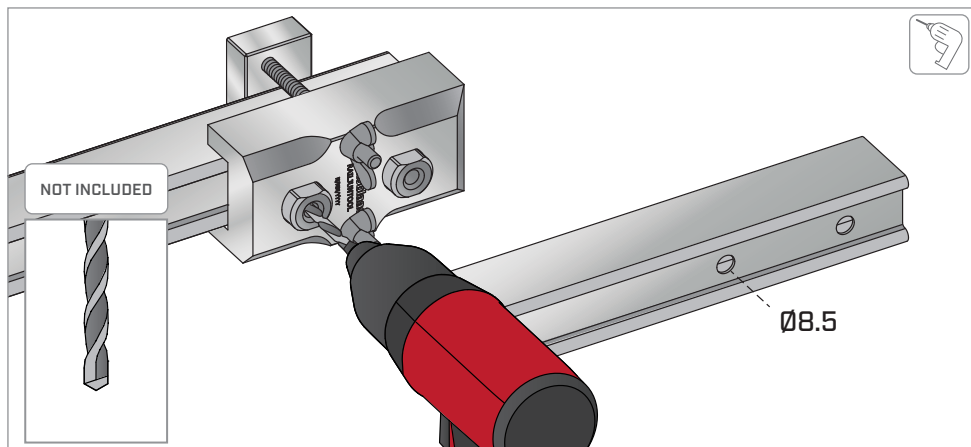


RAILENDOPEN INTSTALLATION

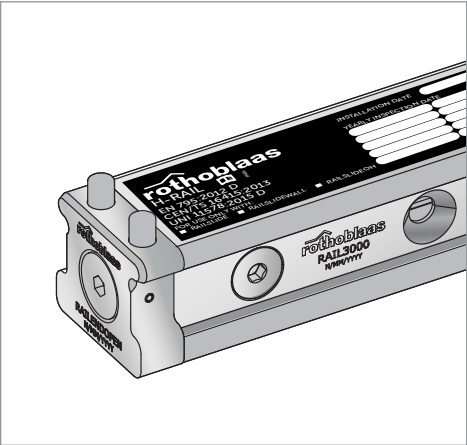
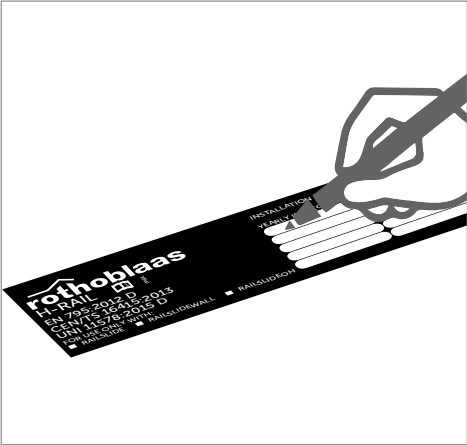


■ RAIL3000 CUT AND RAILJUNTOOL USE





RAILPLATE





Rotho Blaas SRL

06-24

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