

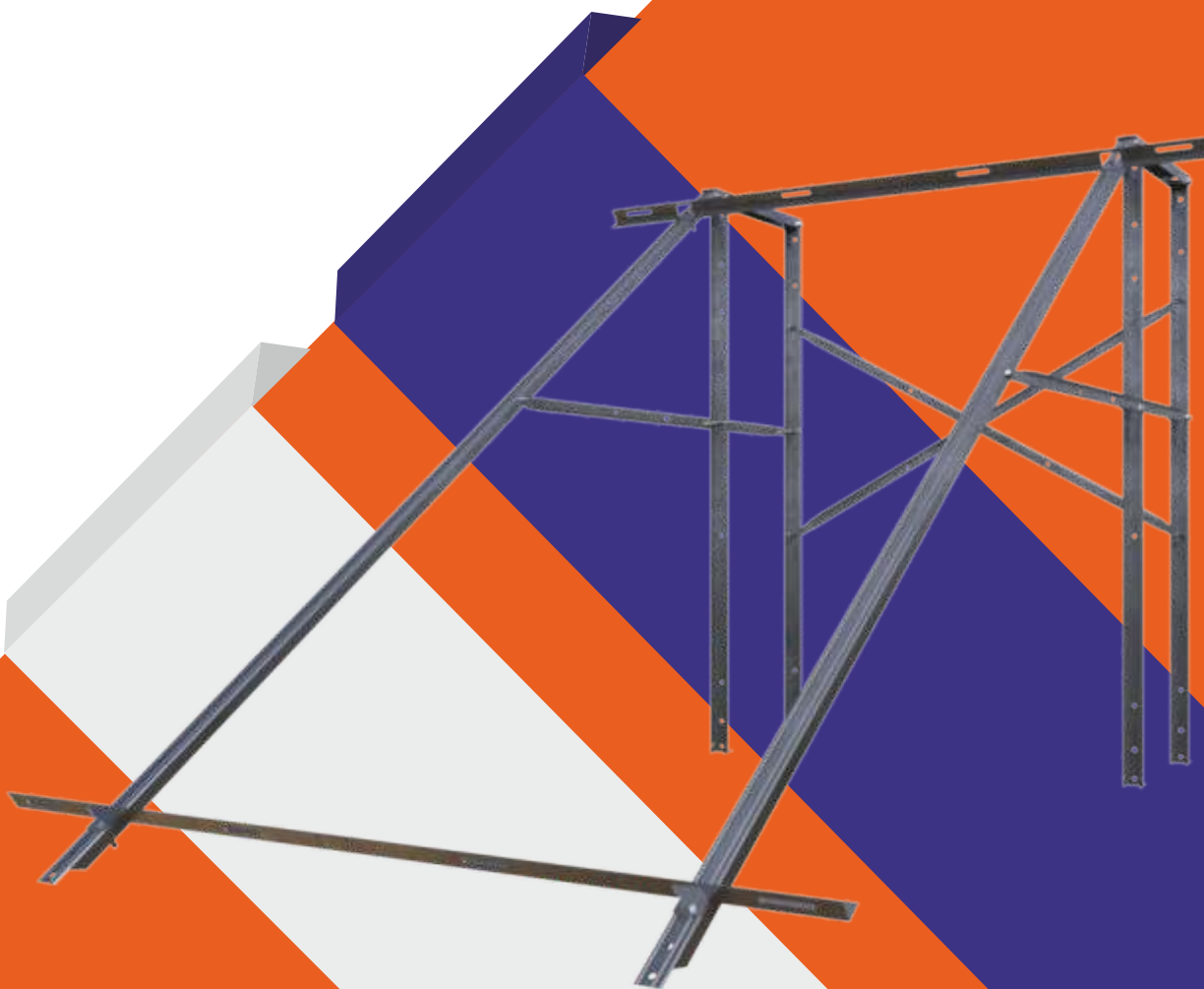


THERMIC^{SOL}

Universal support frame

ASSEMBLY INSTRUCTIONS

THE BRIGHT
SIDE OF ENERGY



www.thermicsol.com



THERMIC^{SOL}

Universal support frame

ASSEMBLY INSTRUCTIONS

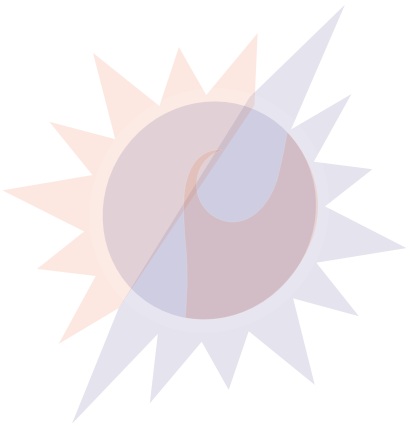
THE BRIGHT
SIDE OF ENERGY



www.thermicsol.com

Contents

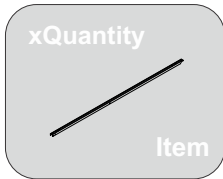
Safety informations	2
Information signs	3
Overview of materials	4
Assembly instructions for flat roof	7
Assembly instructions for inclined roof	17



Safety informations

	Safety precautions: Before commencing mounting work on roofs, it must be ensured in all cases that the non-personal fall protection and fall-arrest systems required by DIN 18338 (Roof Covering and Roof Sealing Works) and DIN 18451 (Scaffolding Works) are in place. See also 7 Builders' Protection Ordinance. Other country-specific regulations must be observed!		Safety harnesses should be fixed above the users whenever possible. Safety harnesses should only be fastened to sufficiently load-bearing structures or fixing points!
	If non-personal fall protection or fall-arrest systems cannot be installed for technical reasons, all personnel must be secured by means of suitable safety harnesses!		Never use damaged ladders (e.g., wooden ladders with split runners or rungs, or bent or buckled metal ladders). Never try to repair broken runners, rungs or steps on wooden ladders!
	Only use safety harnesses (safety belts, lanyards and straps, shock absorbers, fall arresters) that were tested and certified by authorized testing bodies.		Ensure that ladders are put up safely. Observe the correct leaning angle (68° - 75°). Prevent ladders from sliding, falling over or sinking into the ground (e.g. using wider feet, feet suited to the ground or hooking devices).
	If non-personal fall protection or fall-arrest systems are not provided, working without the use of suitable safety harnesses may lead to falls from heights and therefore cause serious or lethal injuries!		Only lean ladders against secure points. Secure ladders in traffic areas by suitable cordoning.
	Ladders not properly secured against sinking in, sliding or falling over may lead to dangerous falls!		Contact with live electric overhead cables can be lethal.
	Whenever you are near live overhead electric cables where contact is possible, only work if: - it is ensured that they are voltage-free and this is secured for the duration of work. - the live parts are secured by covering them or cordoning them off. - the prescribed safety distances are maintained. Voltage radius: 1 m voltages up to 1000V 2 m voltages from 1000V to 11000V 3 m voltages from 11000V to 22000V 4 m voltages from 22000V to 38000V >5 m in case of unknown voltages		Wear protective goggles when drilling and handling collector!
			Wear safety shoes when carrying out installation work!
			Wear cut-proof safety gloves when mounting collectors!
	Only the heat transfer medium specified may be used!		Wear a helmet when carrying out installation work!

Information signs



Indicates specific item & quantity



Attention



See page #



Damage to collector(s)



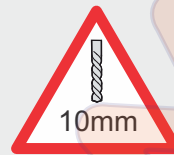
Heavy



Use washer



Exception: Use only for 250lt tanks and above



Use 10mm drill



Tighten with specified torque



Retighten with specified torque AGAIN EVERY NUT AND BOLT



Use ONLY the indicated bolt

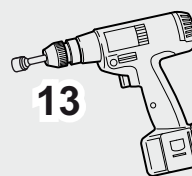
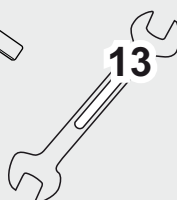
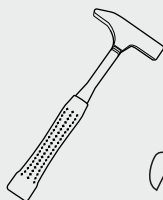
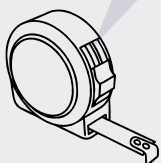


Position the frame to the exact place according to your specific geographic location

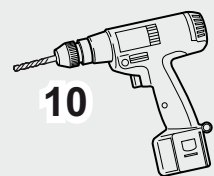


Remove the base from the Tank

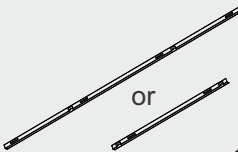
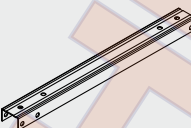
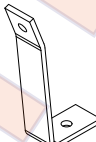
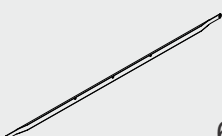
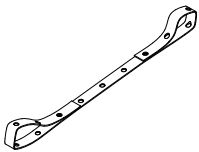
Tools needed

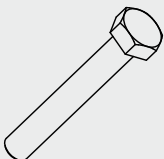
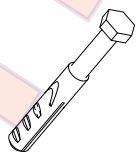
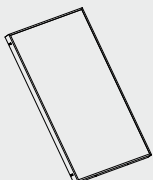


or

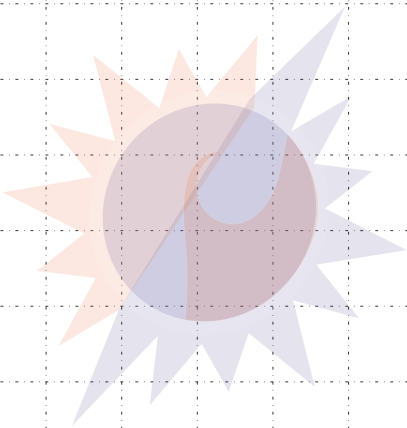


Overview of materials

NAME	QUANTITY	ITEM	DESCRIPTION
Profile 1	2	 1	Structural Profile. Supports the solar collector(s).
Collector Bracket	2	 2	Secures the collector onto the base. Two discreet sizes, for 1 or 2 collectors.
Profile 2	4	 3	Structural profile. Used either as the base on the flat roof format, or as the beam of the universal support frame for the inclined roof format.
Joint Profile (Tank Base)	2	 4	Tank base horizontal profile/joint. Supports the tank both for the flat and inclined roofs.
Tank Bracket	2	 5	Supports the tank on the Universal support frame in the inclined roof format
Fastening Joint	4 OR 6	 6	Secures the tank base in an X and joints it with the solar panel profile as a buttress. For 250lt and beyond, 1 extra X joint is needed (see Step 3.2).
Fastening Strip	4	 7	Ties profile 2 to the beam of the inclined roof under the roof tiles.
Hex head screw grade C M8x1.25 x 12 Steel Grade 8	4 or 8	 8	Hex head screw grade C M8x1.25 x 12 Steel Grade 8.

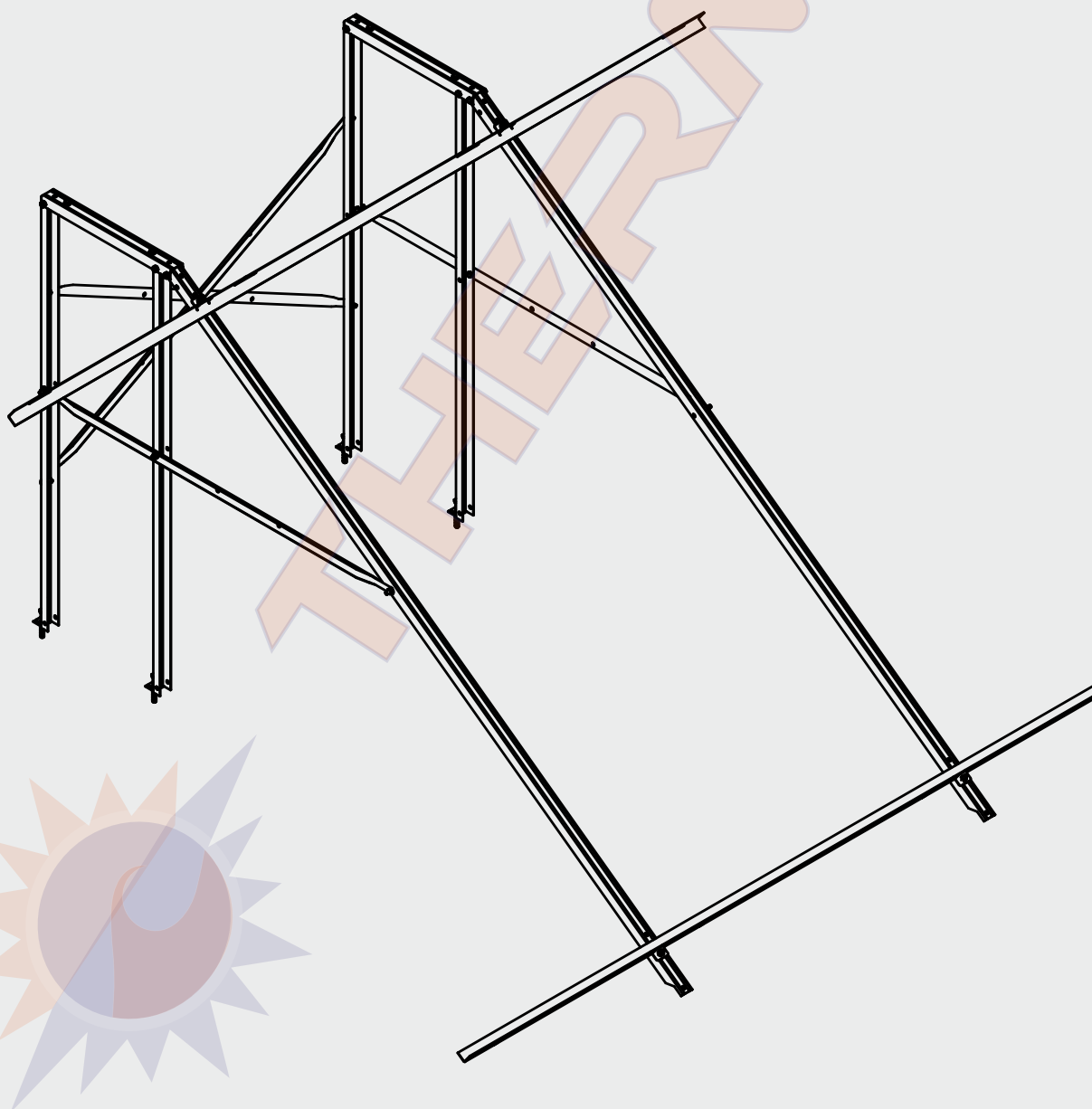
NAME	QUANTITY	ITEM	DESCRIPTION
Hex head screw grade C M8x1.25 x 20 Steel Grade 8	25	 9	Hex head screw grade C M8x1.25 x 20 Steel Grade 8
Hex head screw grade C M8x1.25 x 55 Steel Grade 8	6	 10	Hex head screw grade C M8x1.25 x 55 Steel Grade 8
Hex nut grade C M8x1.25 Steel Galvanized	31	 11	Hex nut grade C M8x1.25 Steel Galvanized
Chamfered plain washer normal M8	4 or 8	 12	Chamfered plain washer normal M8
Wall Screw & Plug	6	 13	Wall Screw & Plug
Solar Collector	1 or 2	 14	Solar Collector
Tank	1	 15	Tank

THERMIC^{sol}

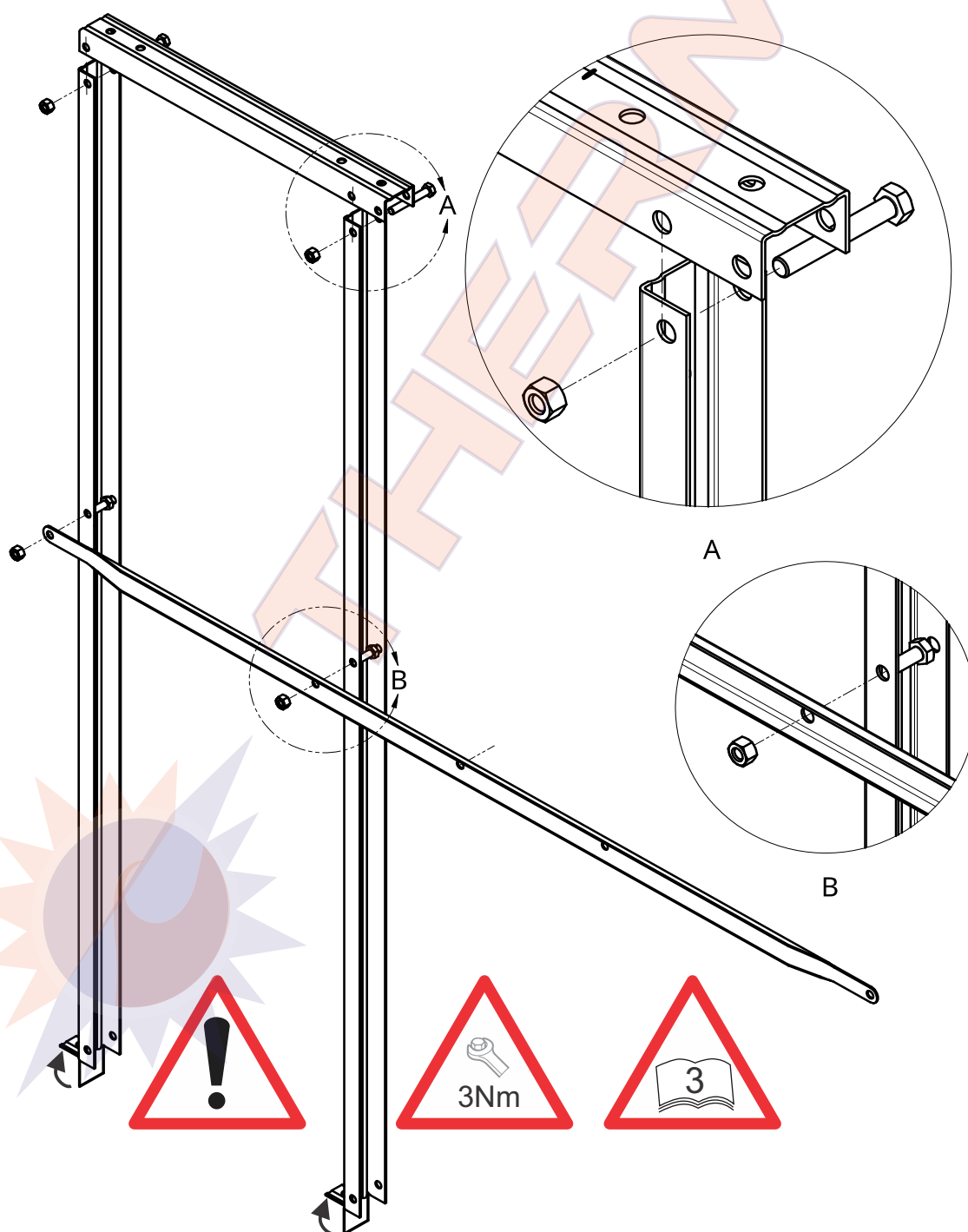
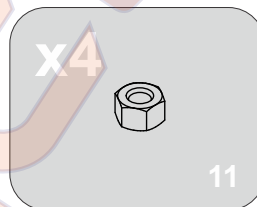
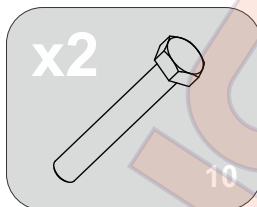
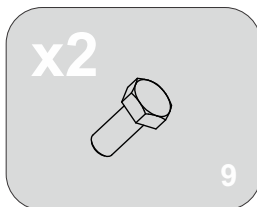
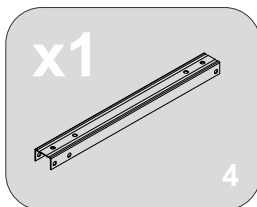
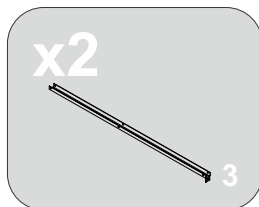
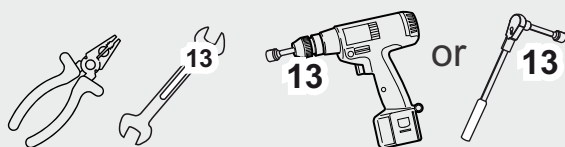


Assembly instructions for flat roof

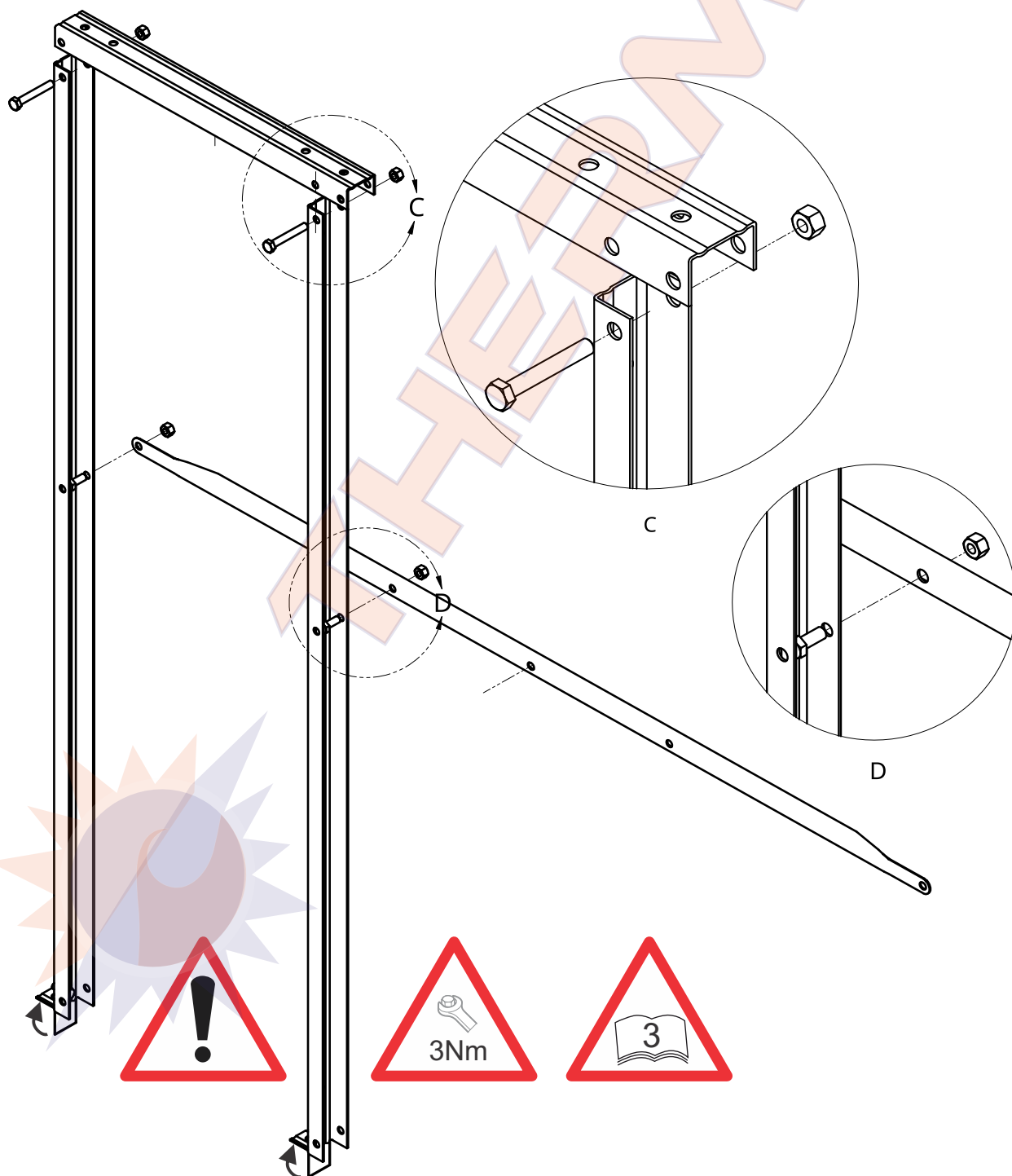
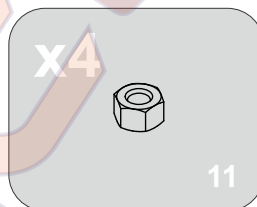
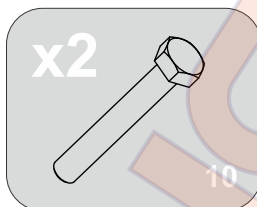
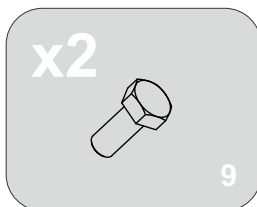
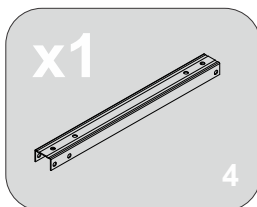
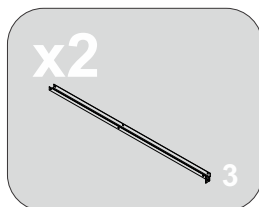
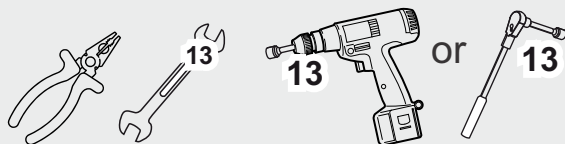
Flat Roof Support Frame



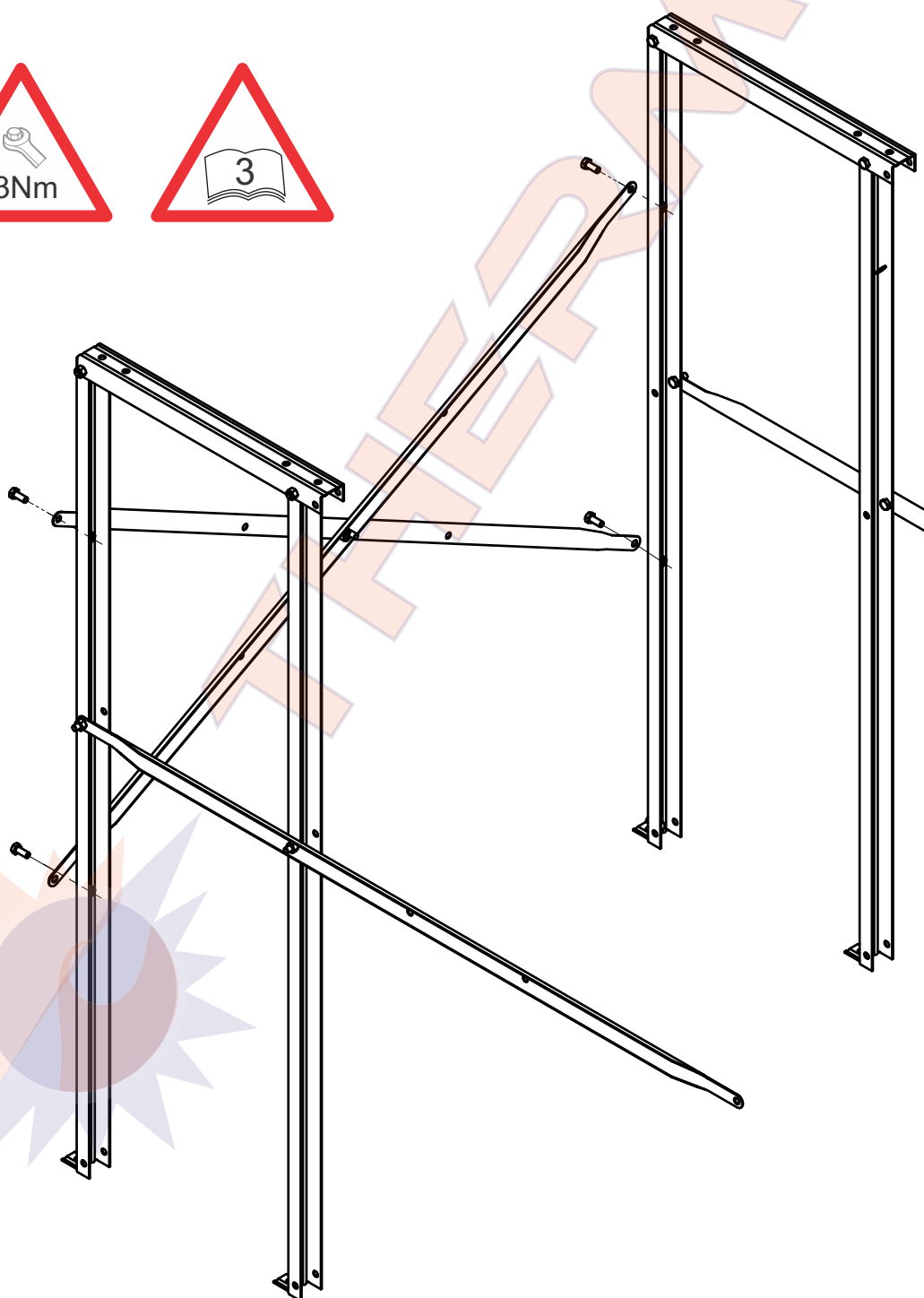
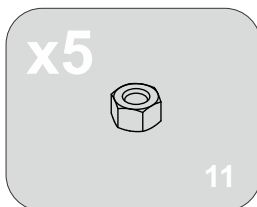
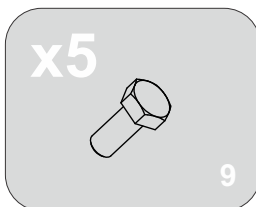
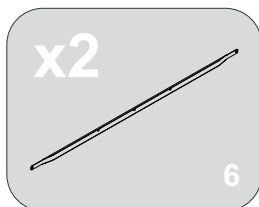
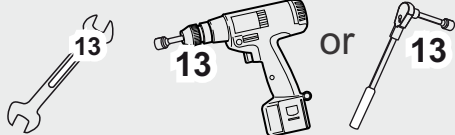
1



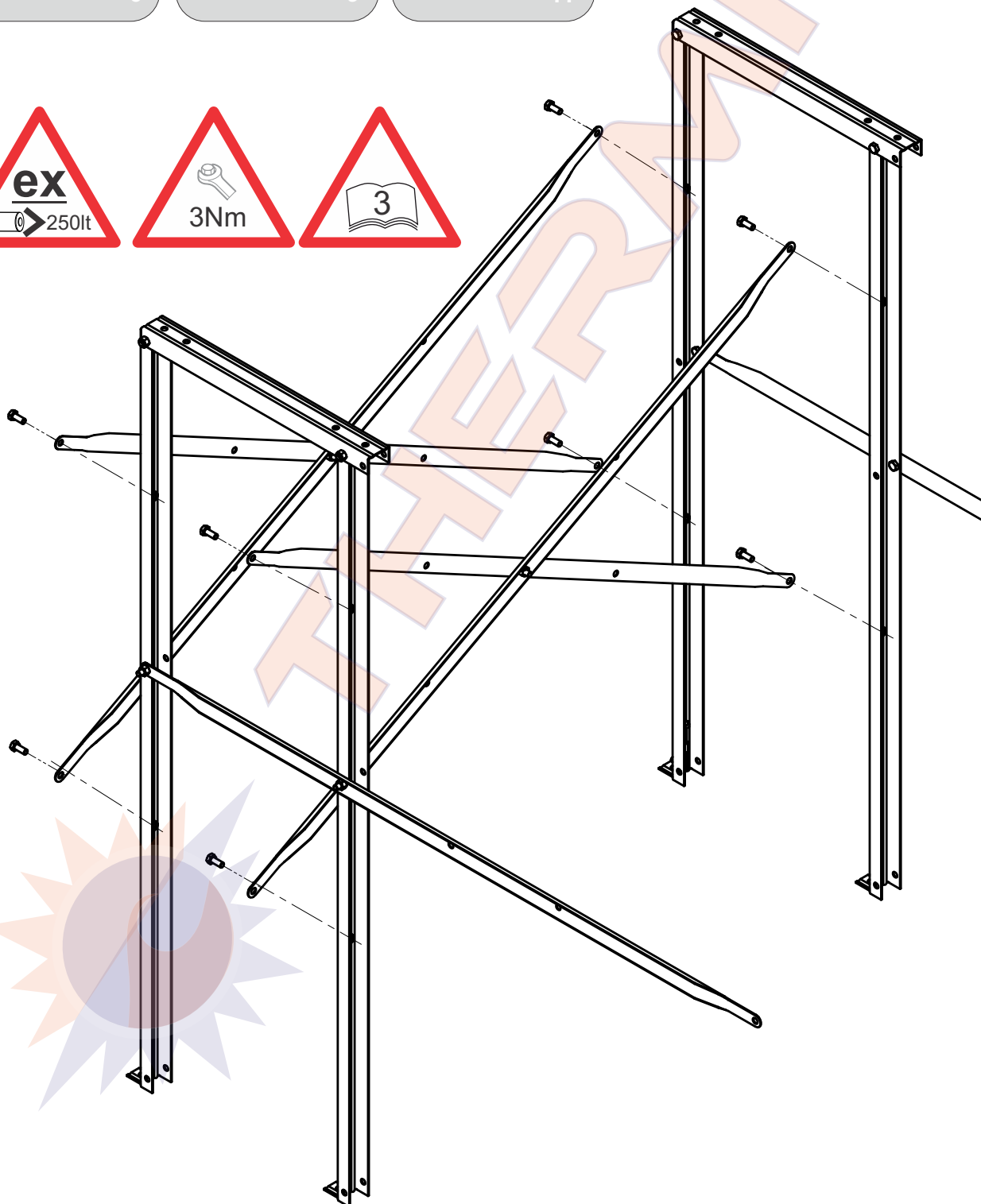
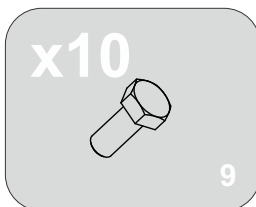
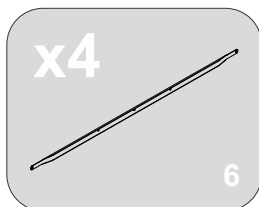
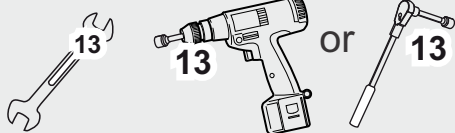
2



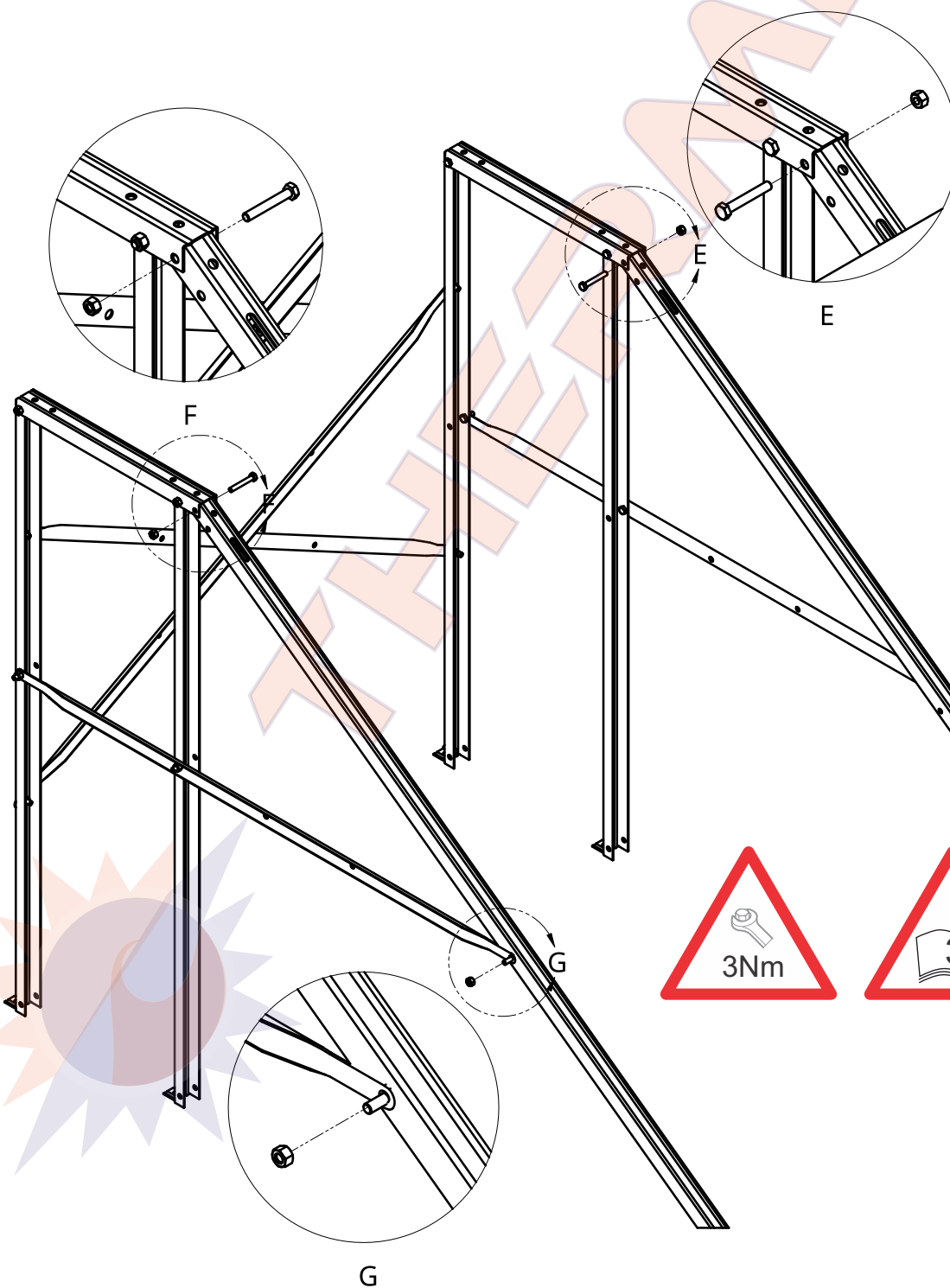
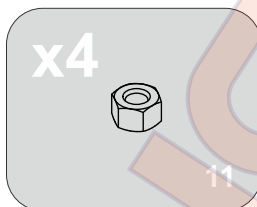
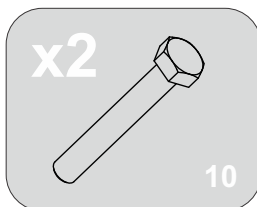
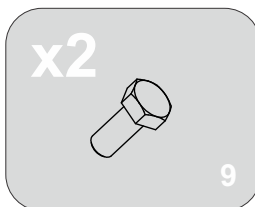
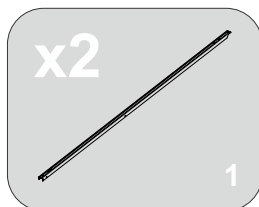
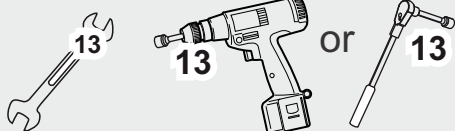
3.1



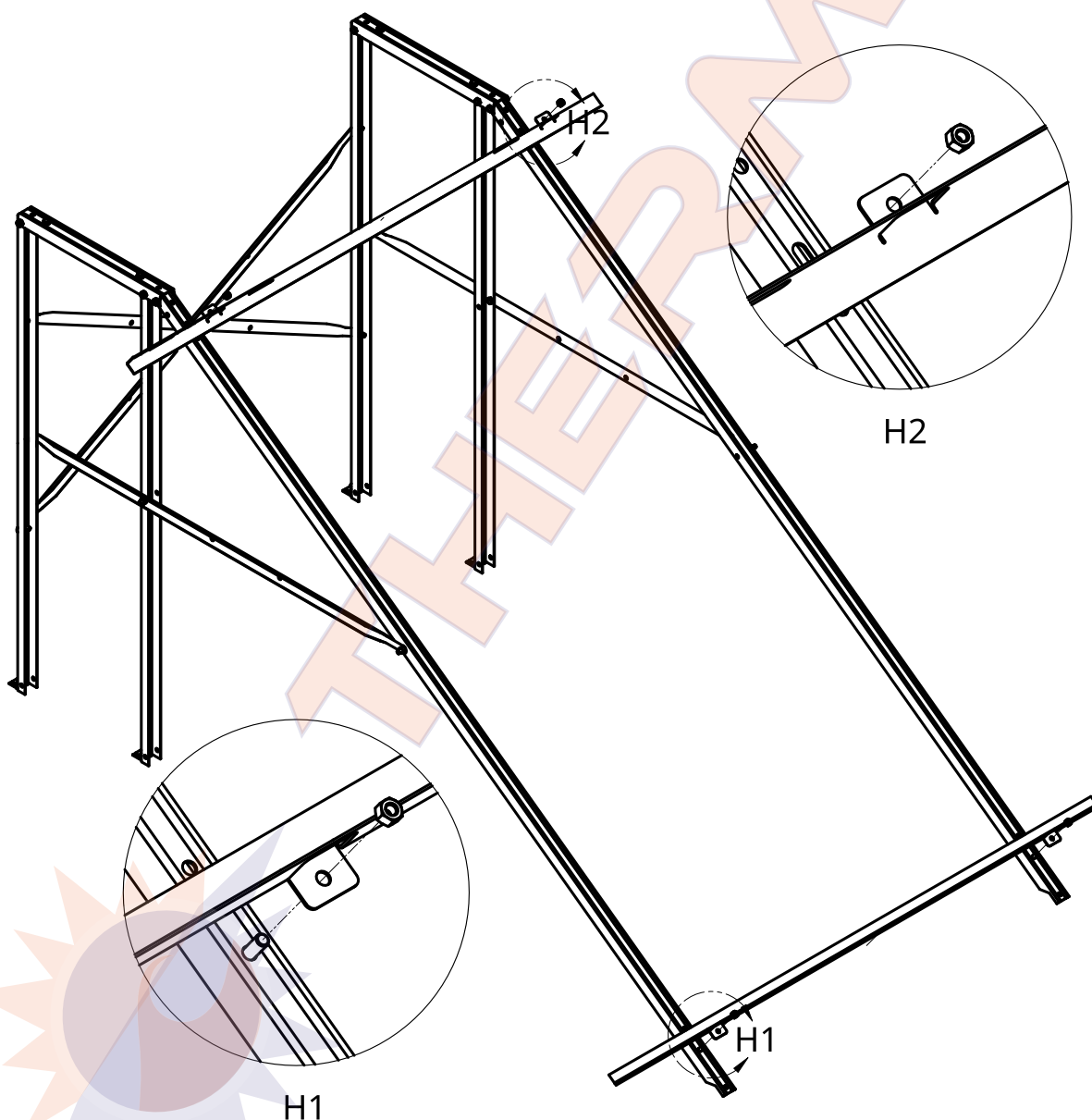
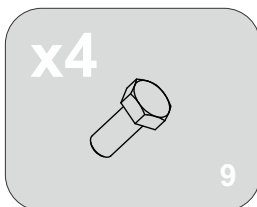
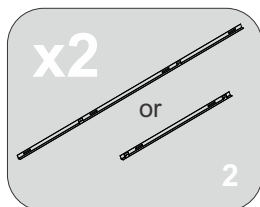
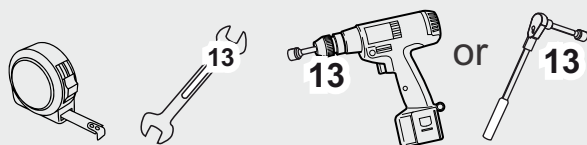
3.2



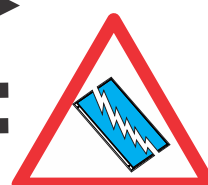
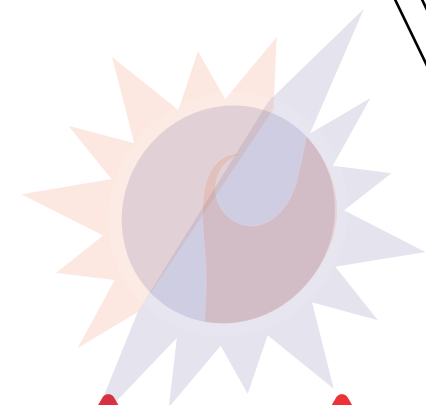
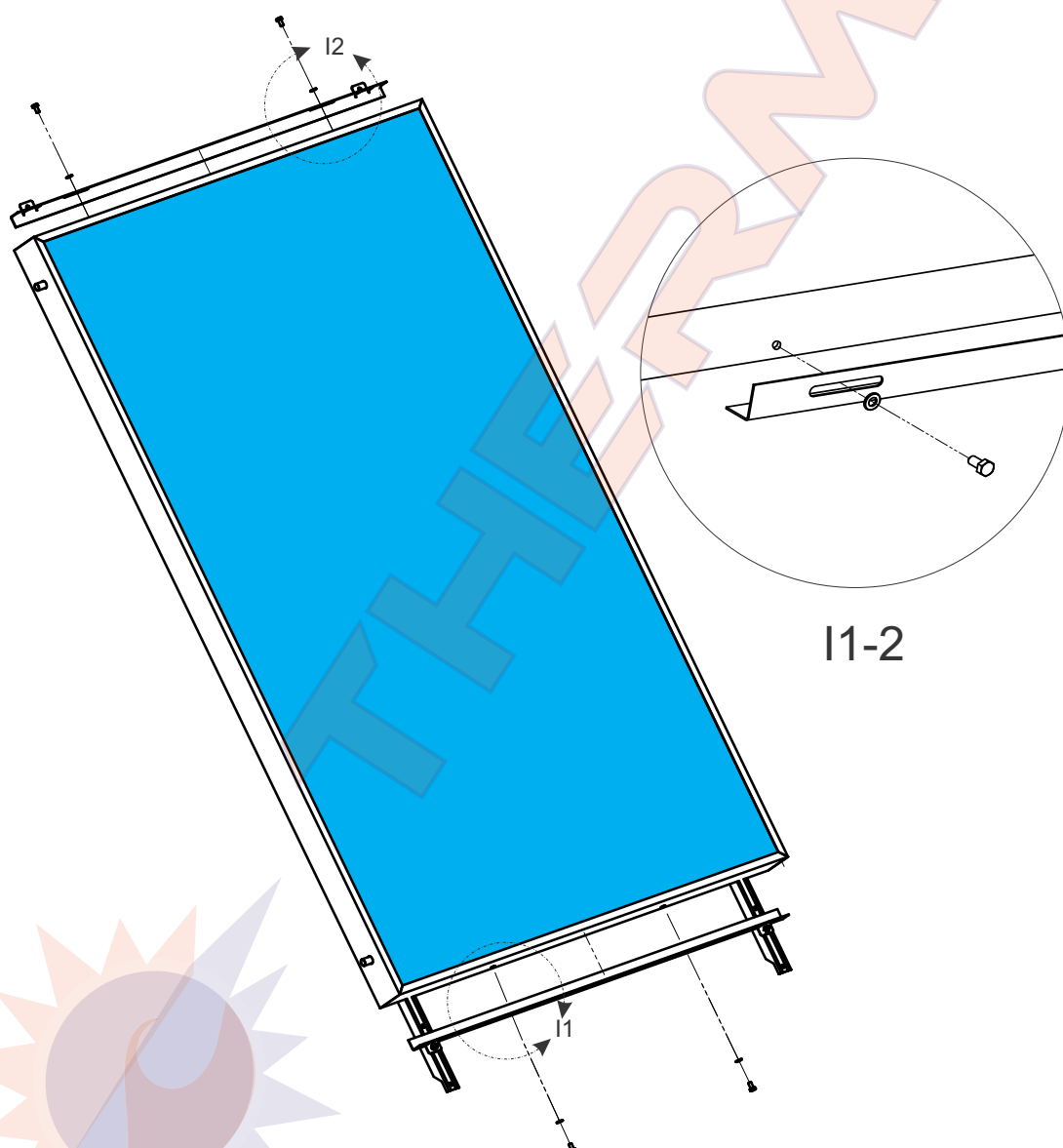
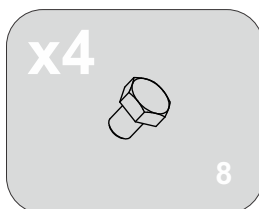
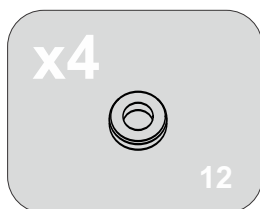
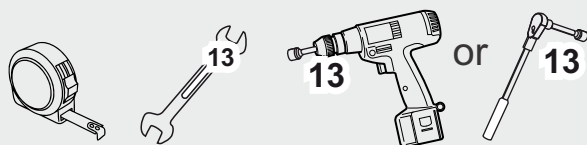
4



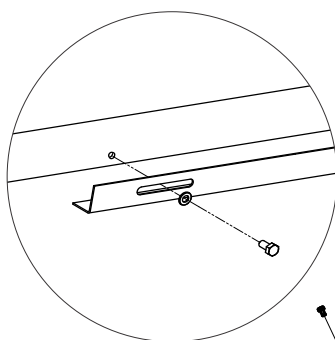
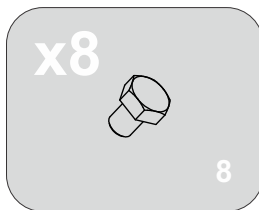
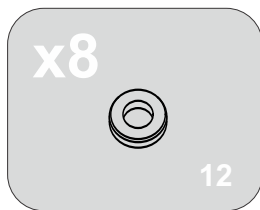
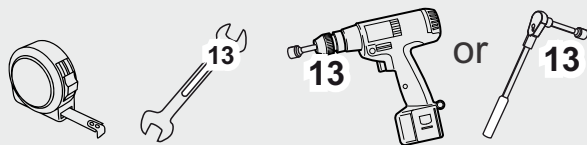
5



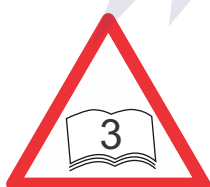
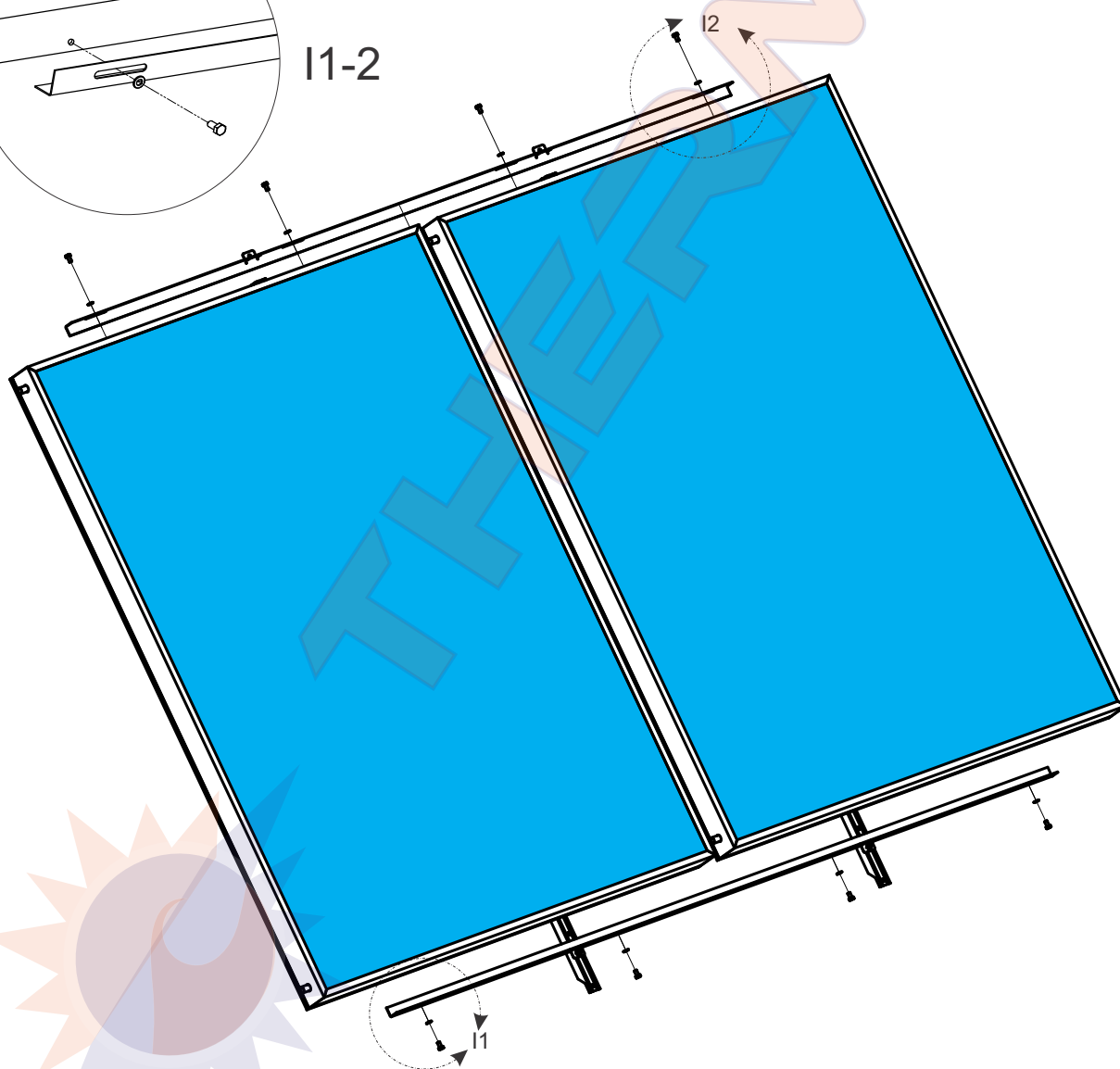
6.1



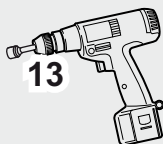
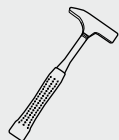
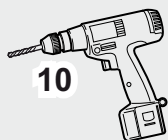
6.2



I1-2



7



or



x4



9

x4



12

x4

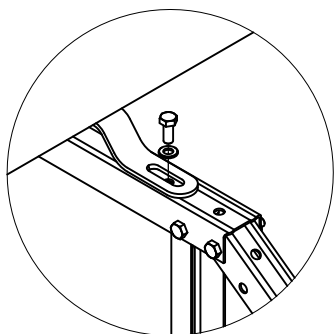


11

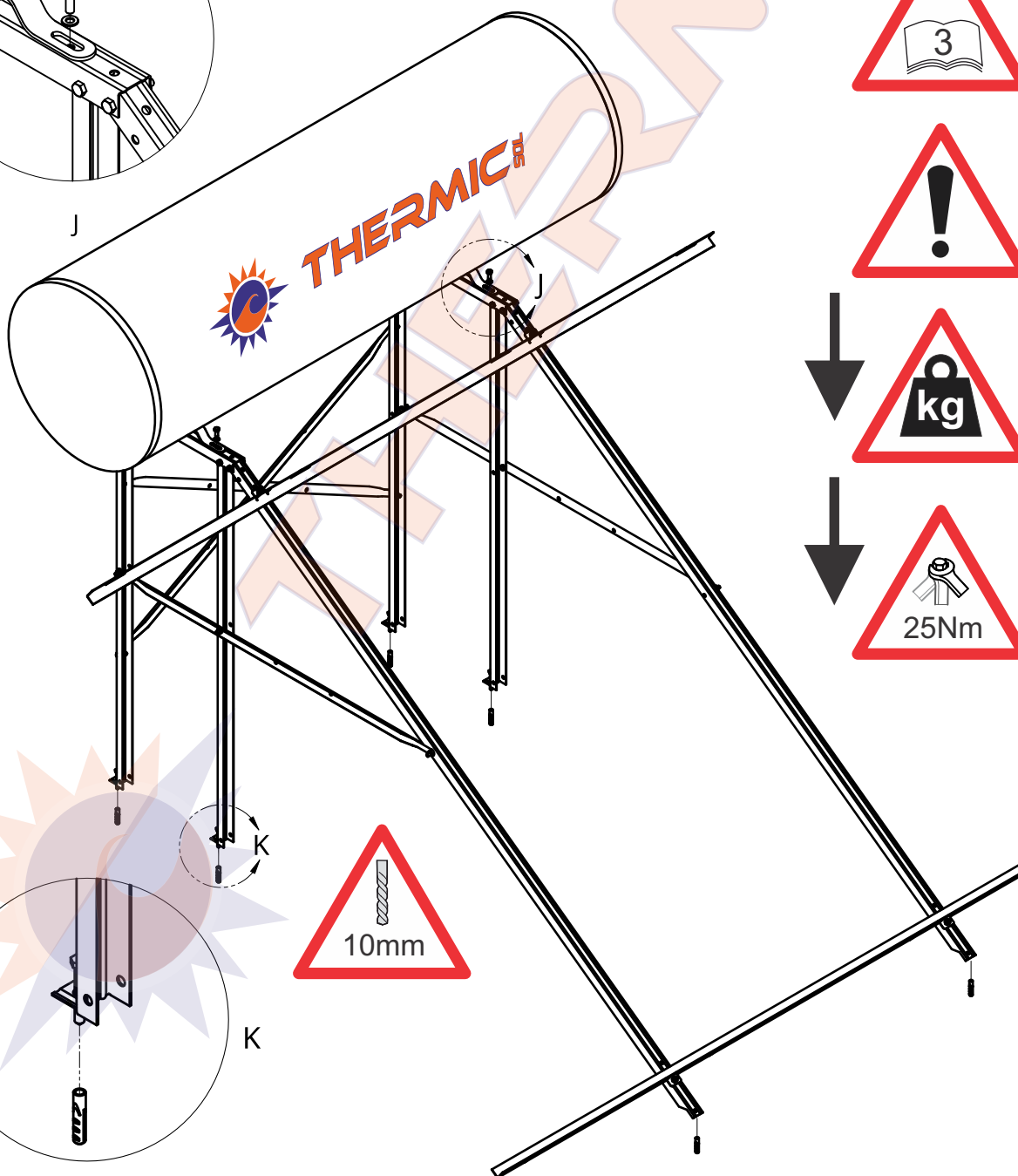
x6



13



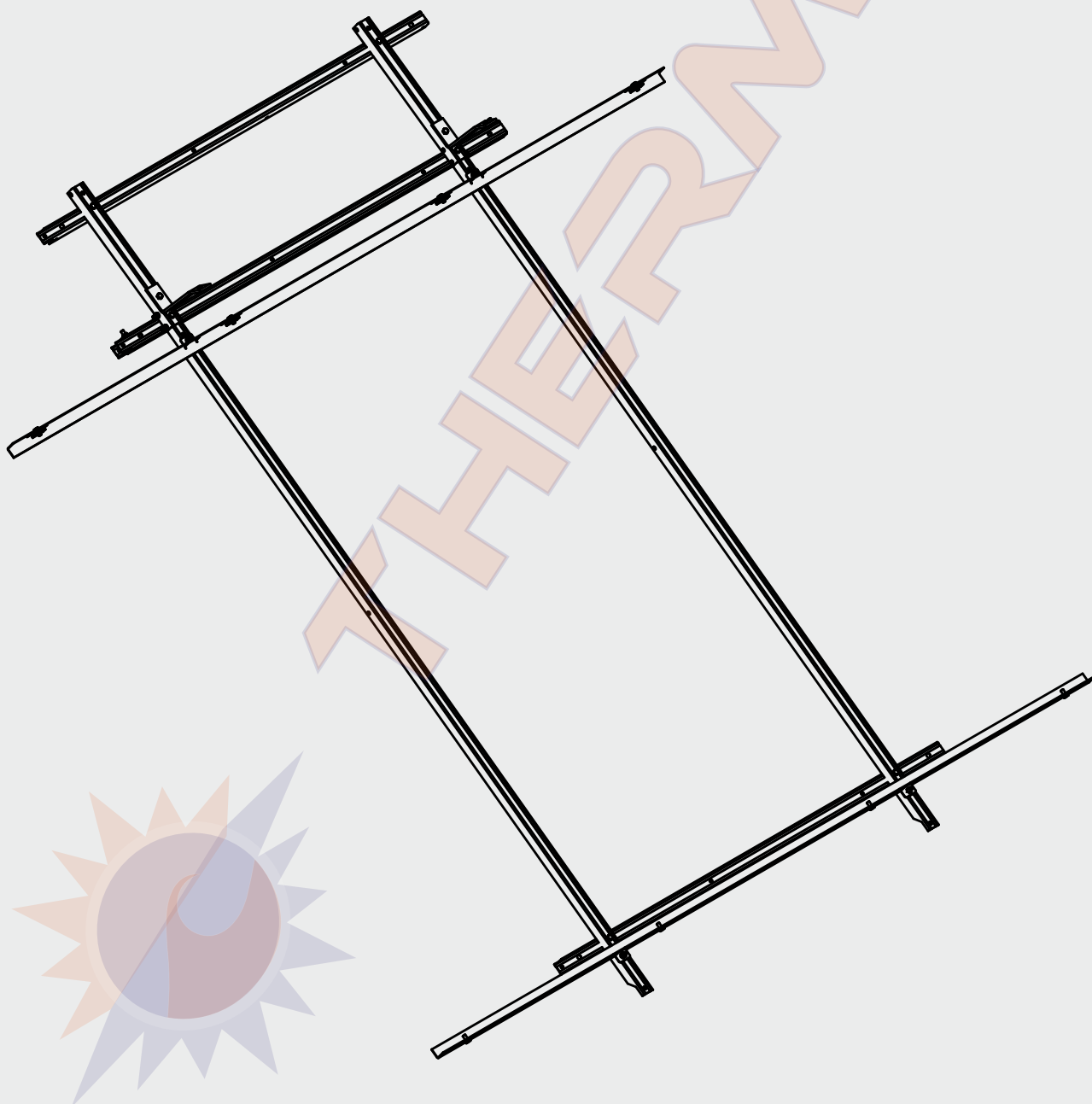
J



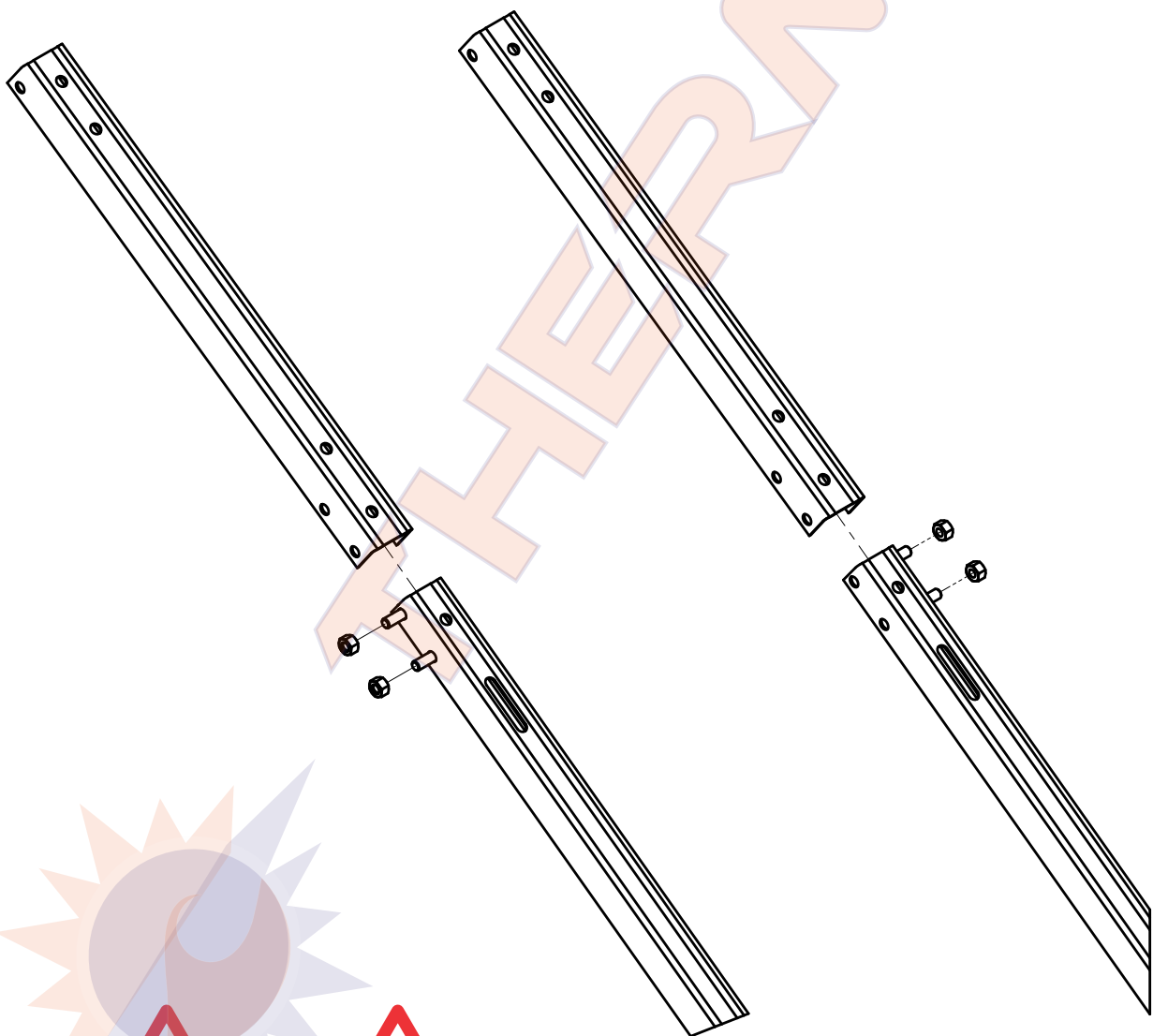
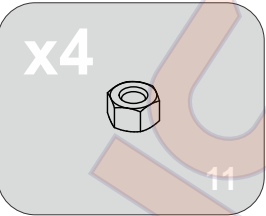
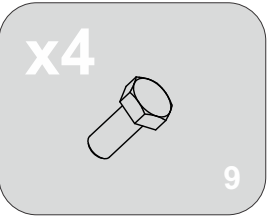
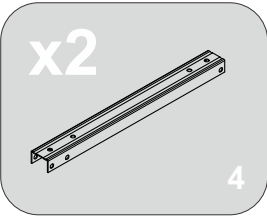
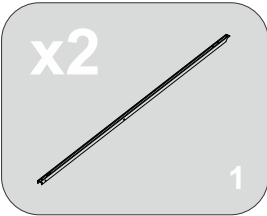
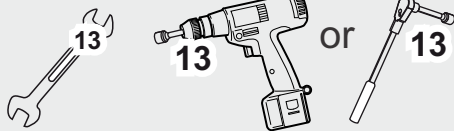
K

Assembly instructions for inclined roof

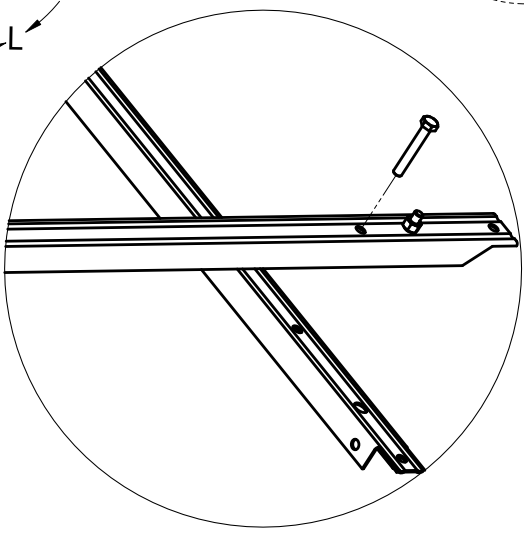
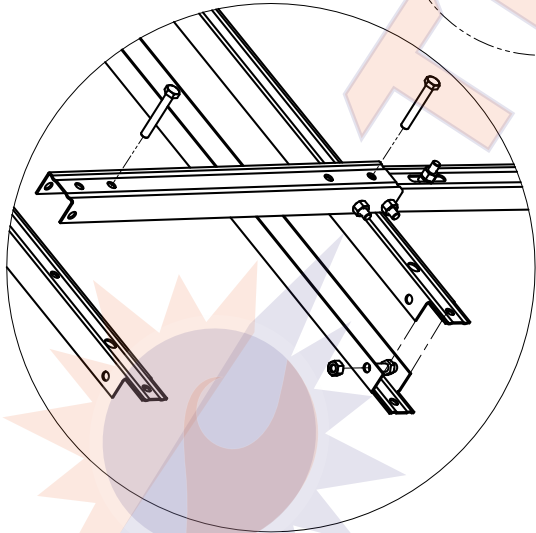
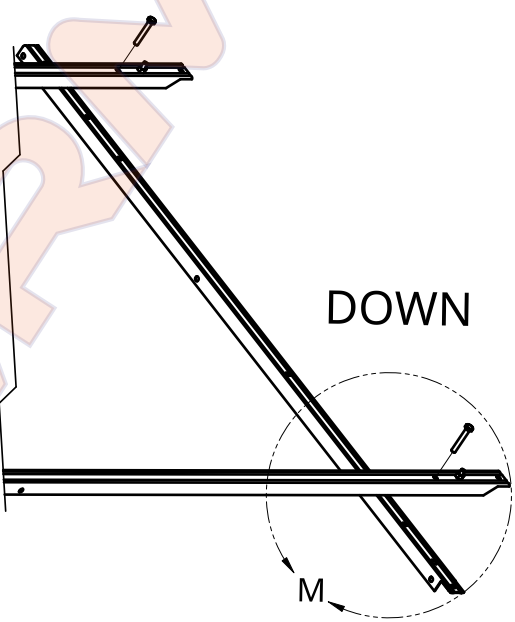
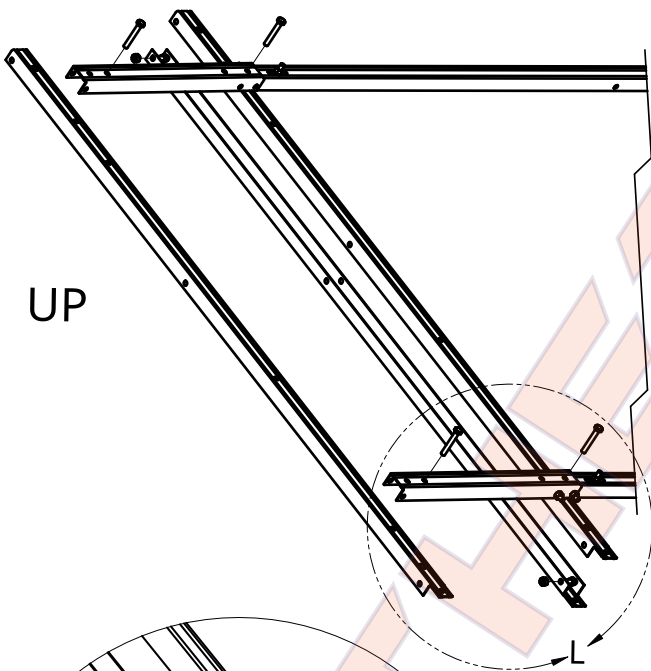
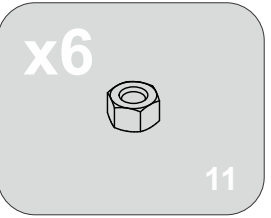
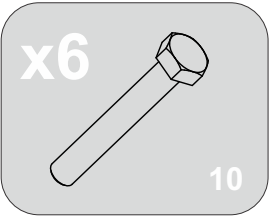
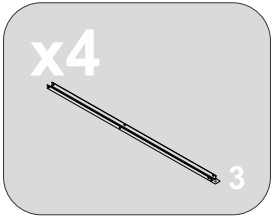
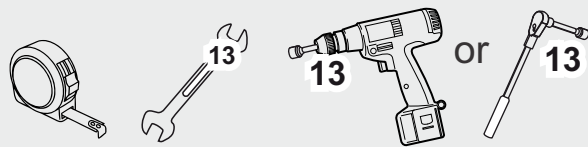
Inclined Roof Support Frame



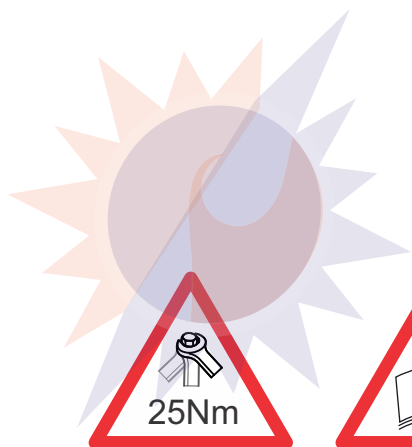
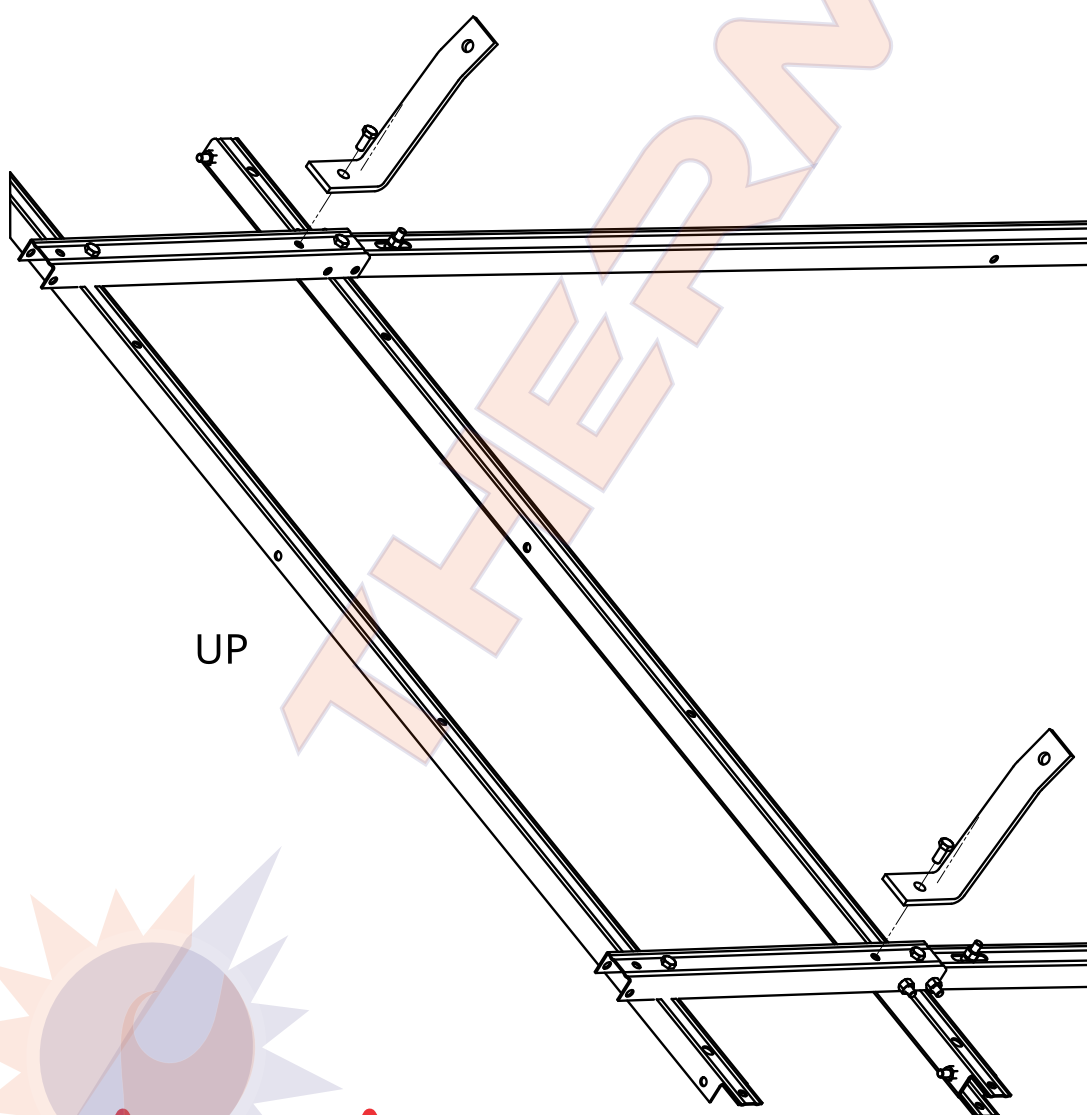
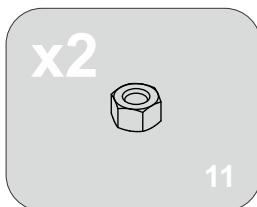
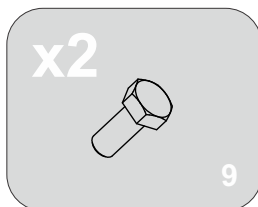
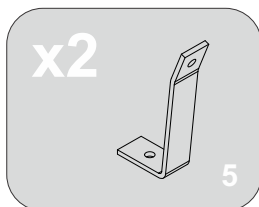
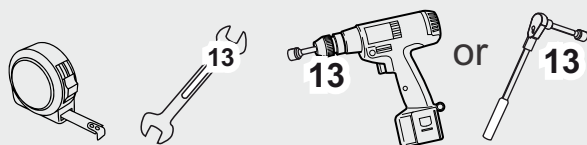
1



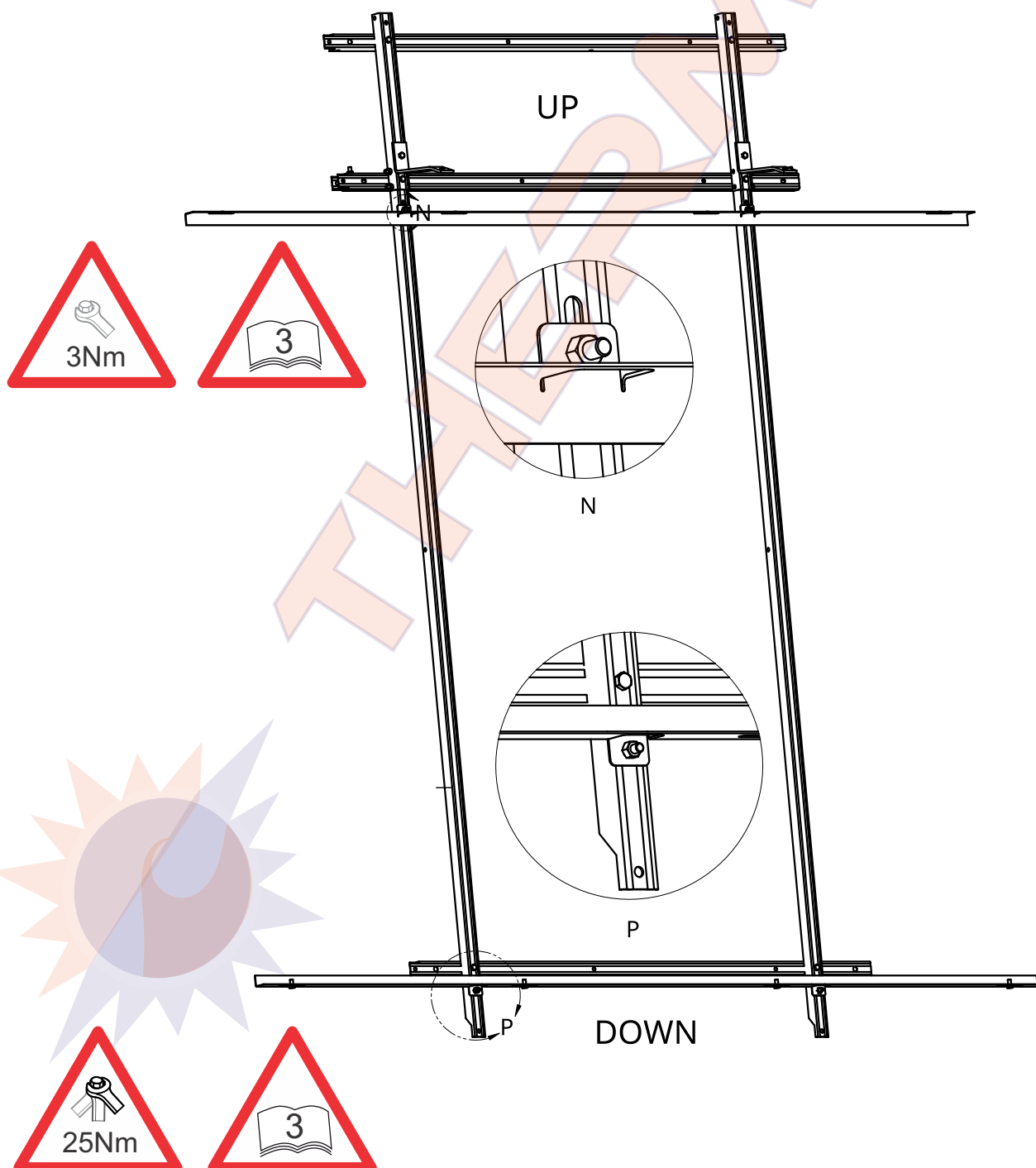
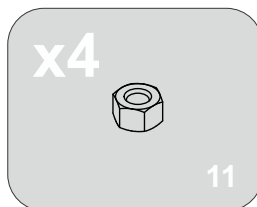
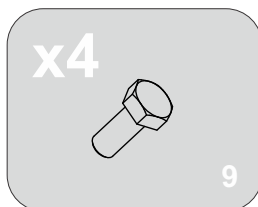
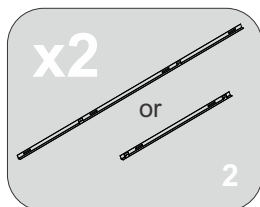
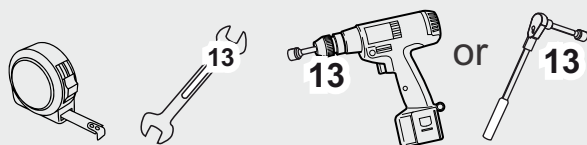
2



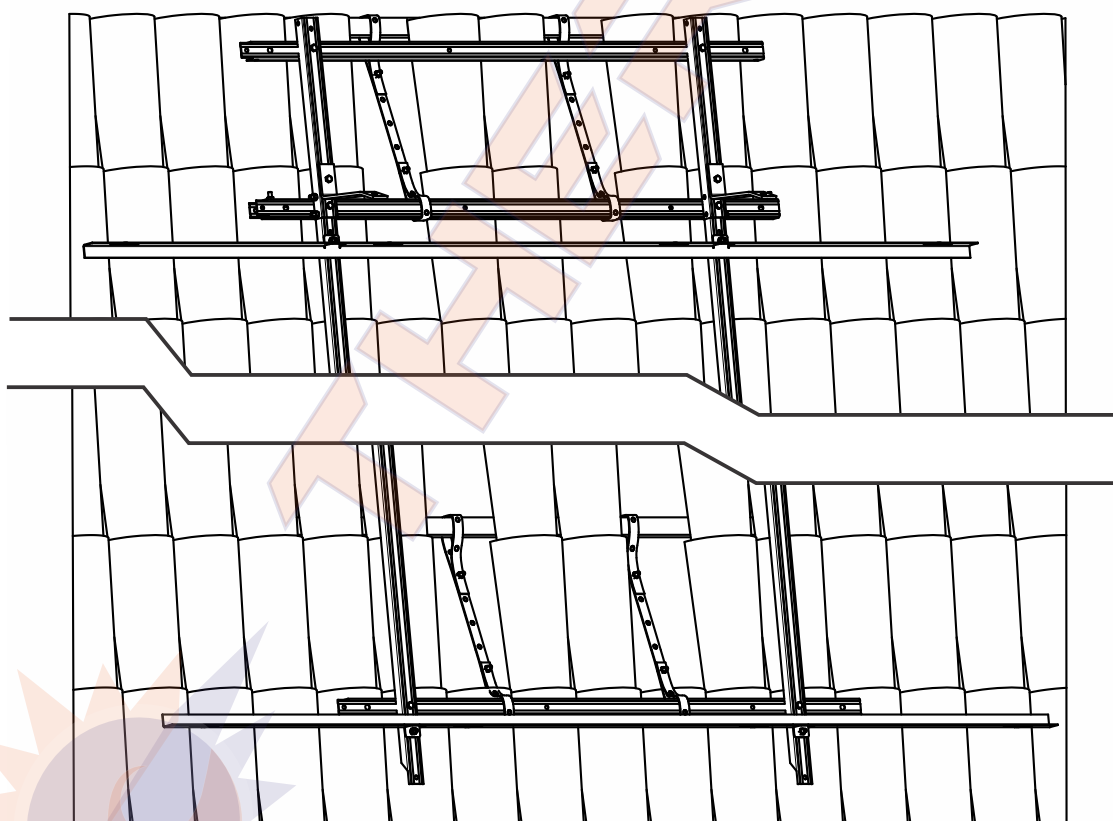
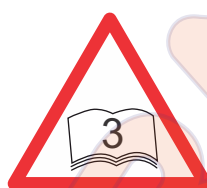
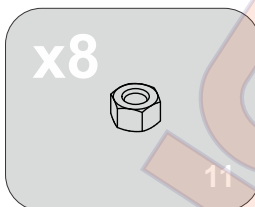
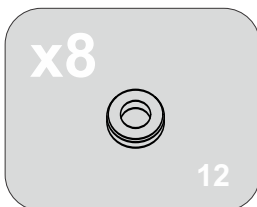
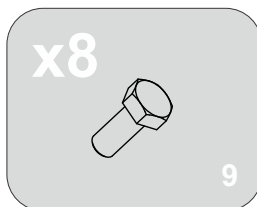
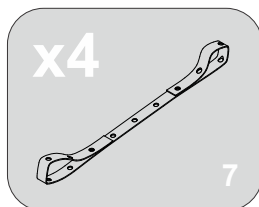
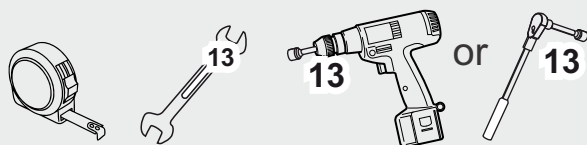
3



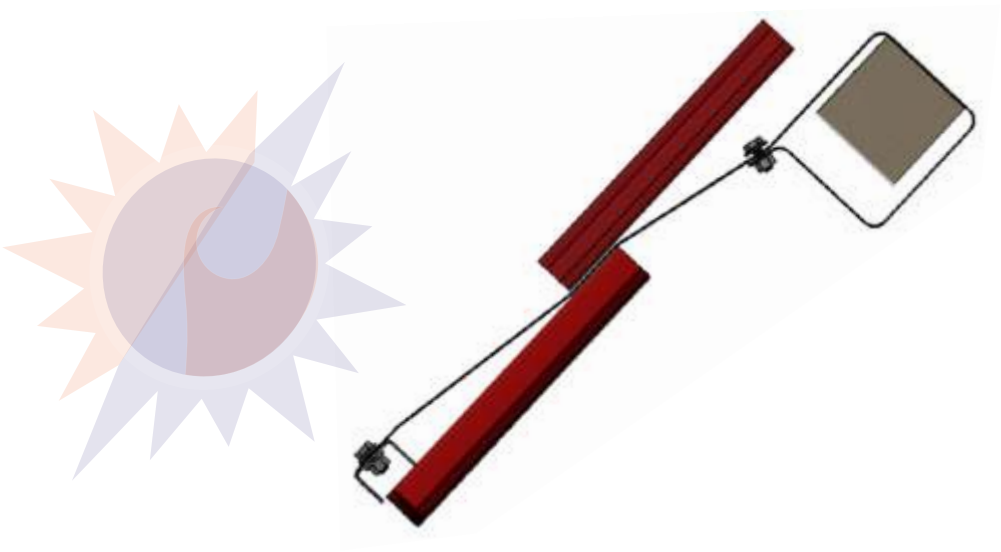
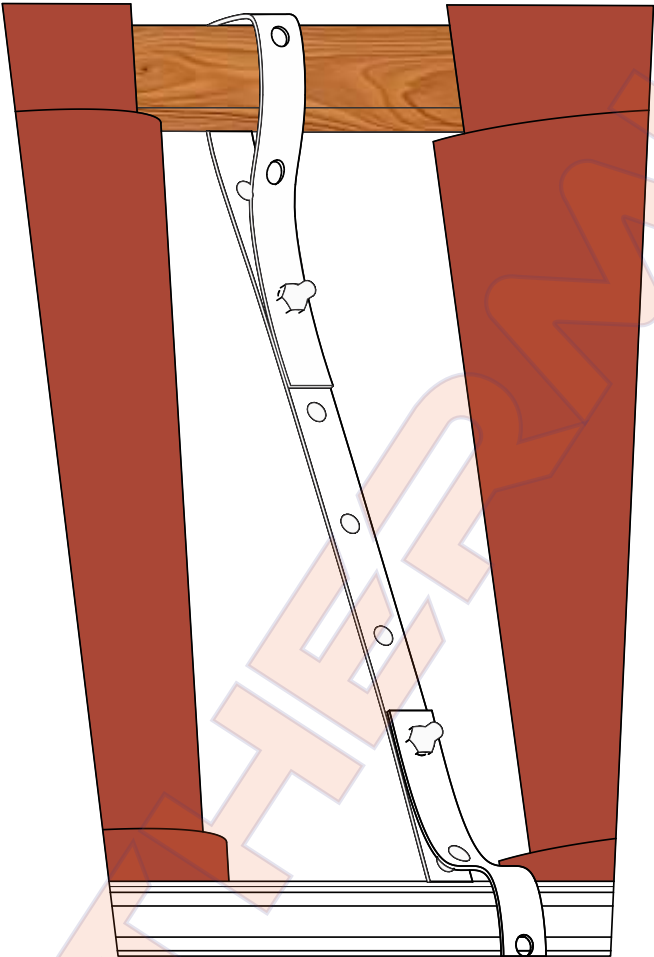
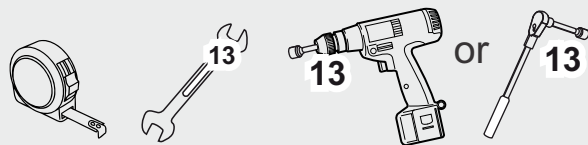
4



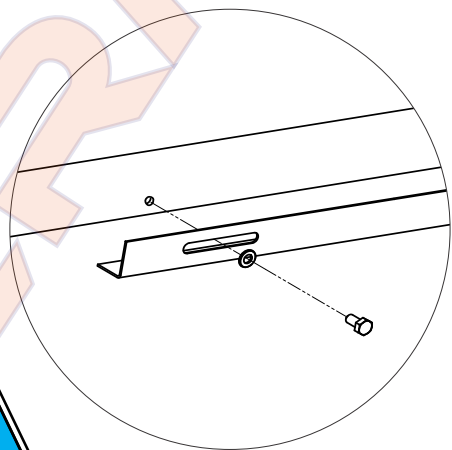
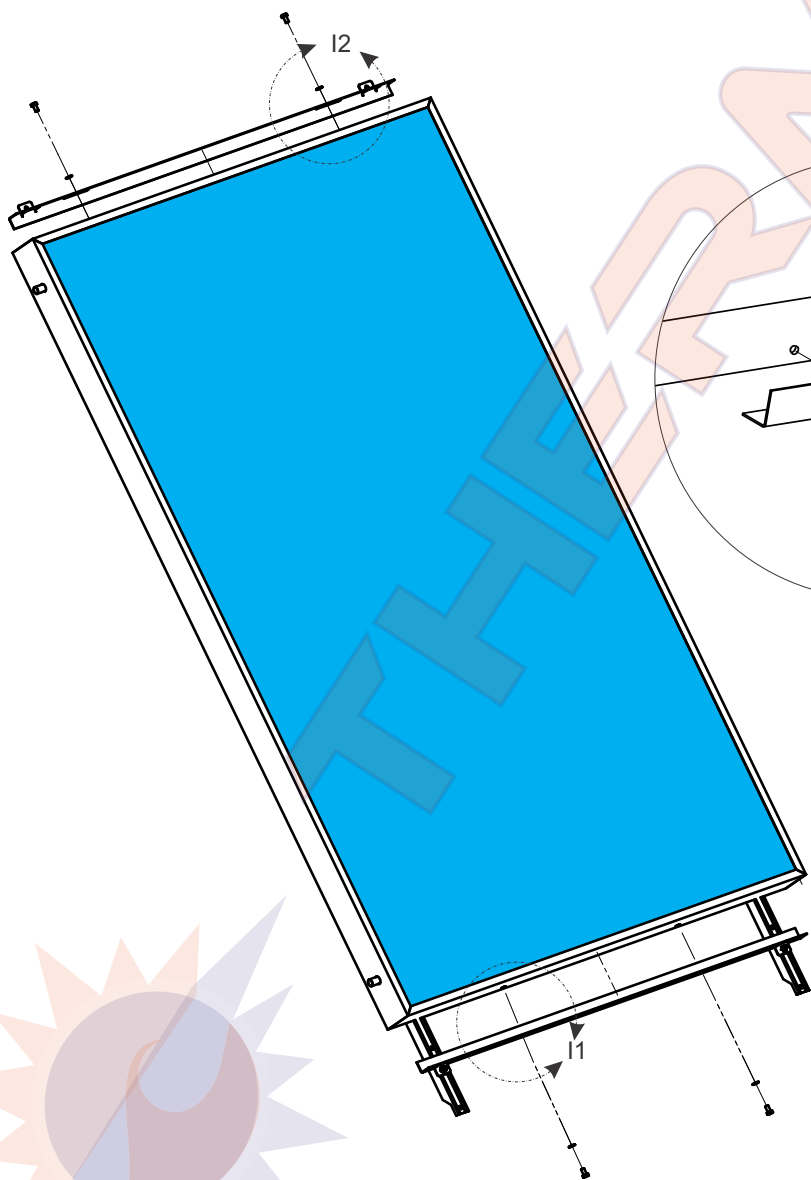
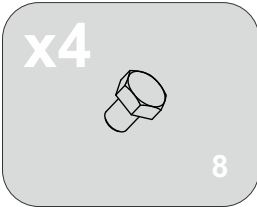
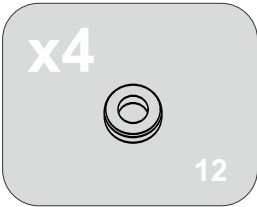
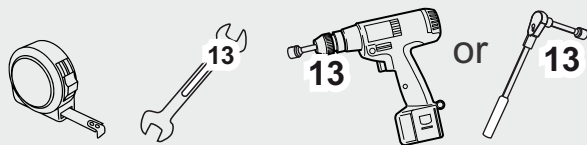
5.1



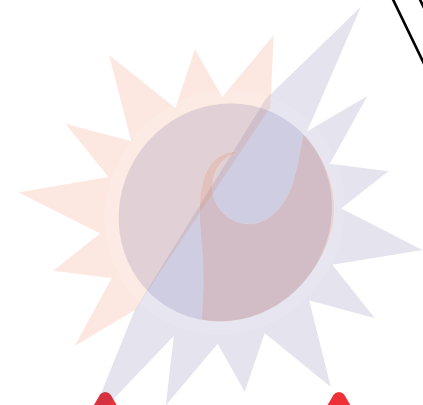
5.2



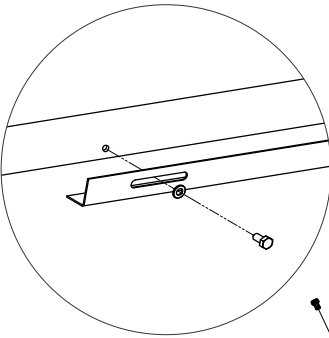
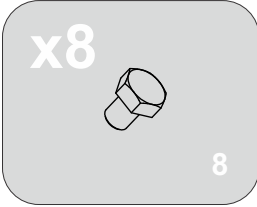
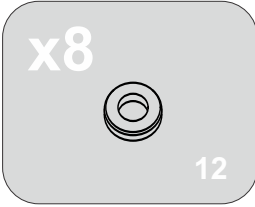
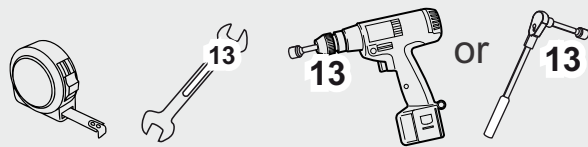
6.1



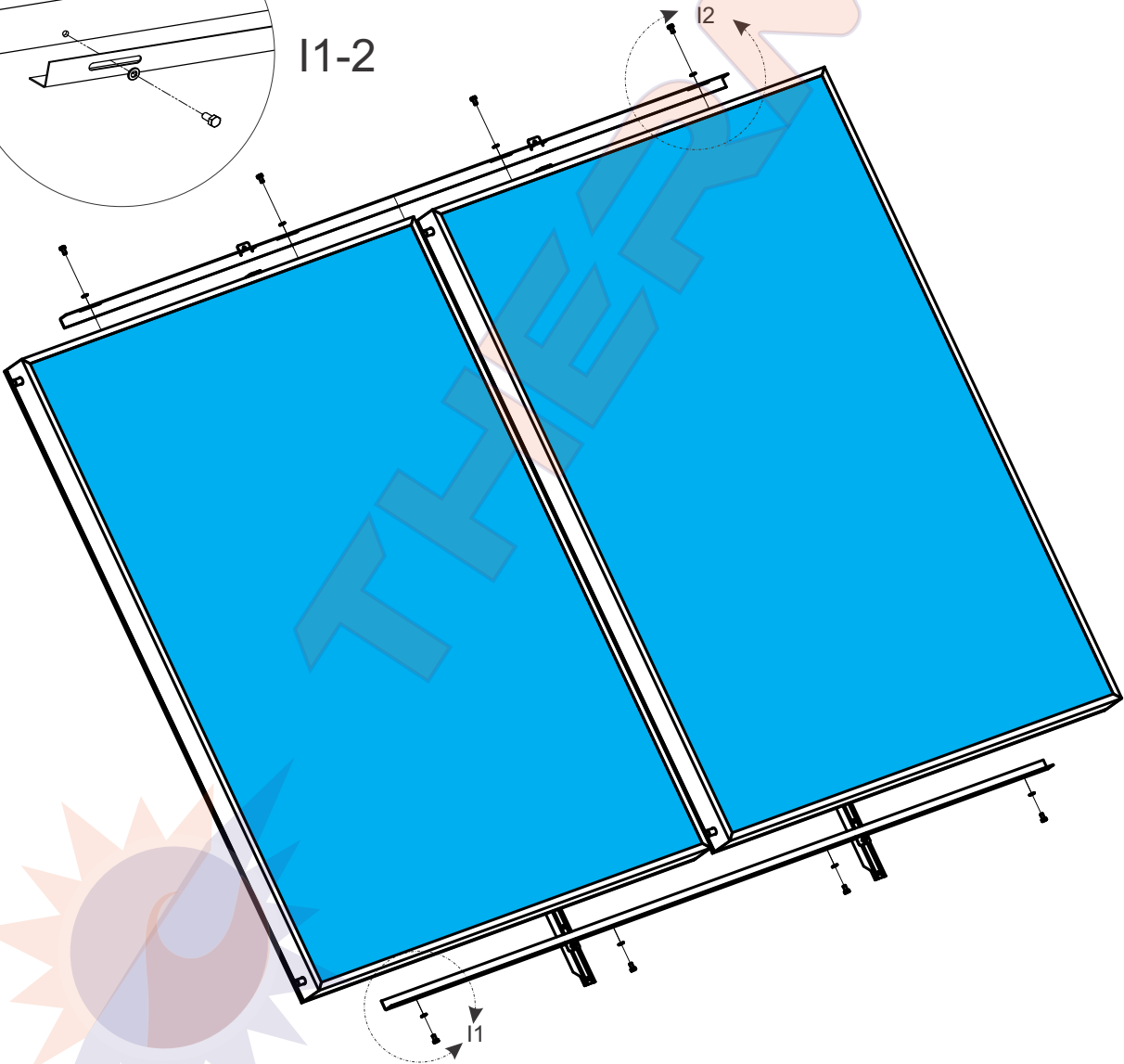
I1-2



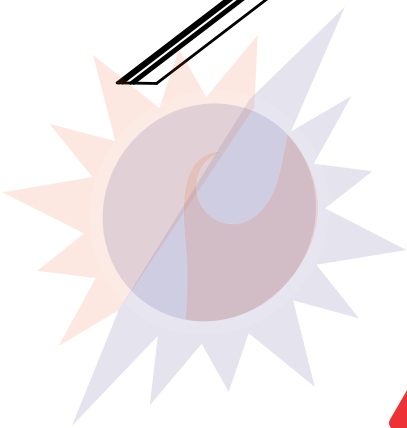
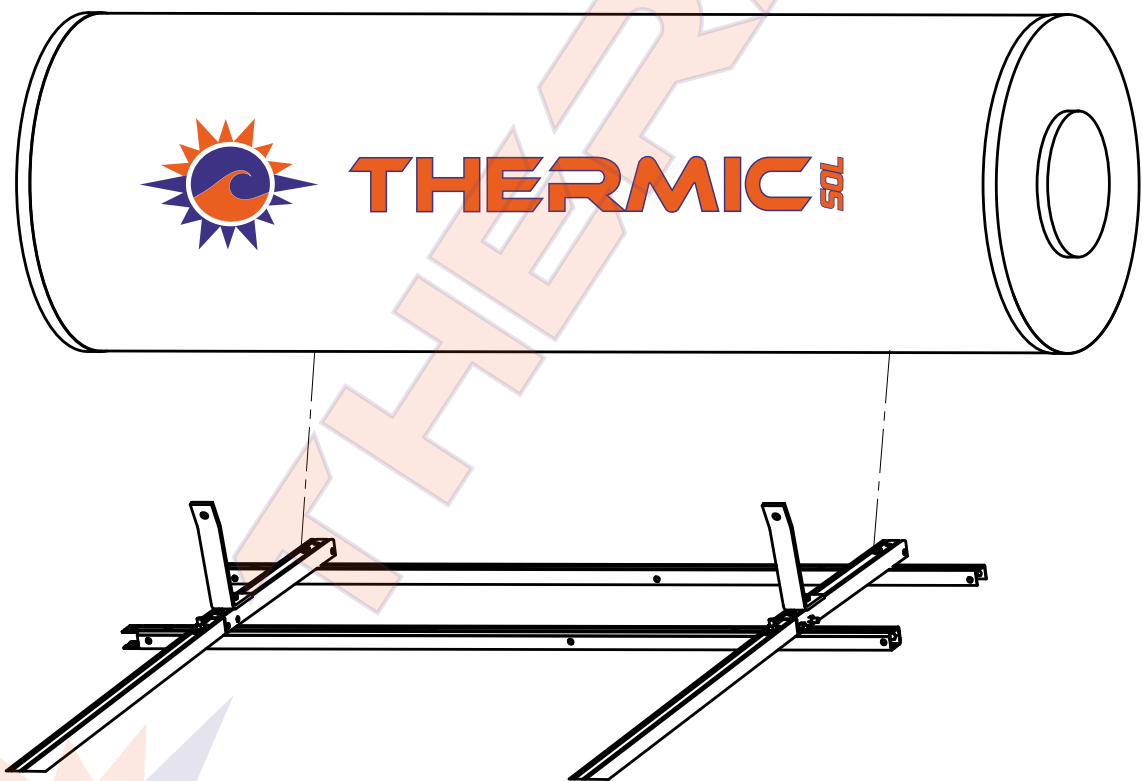
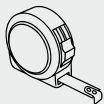
6.2



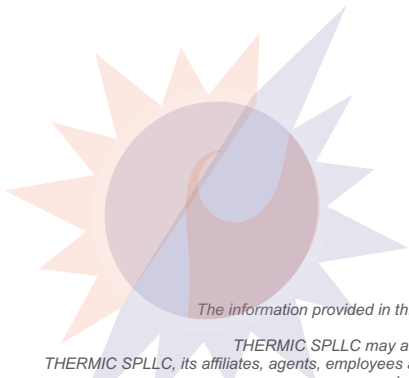
I1-2



5.2



THERMIC^{sol}



The information provided in this document is intended for informational purposes only and is subject to change without notice.
Information may be changed or updated without notice.

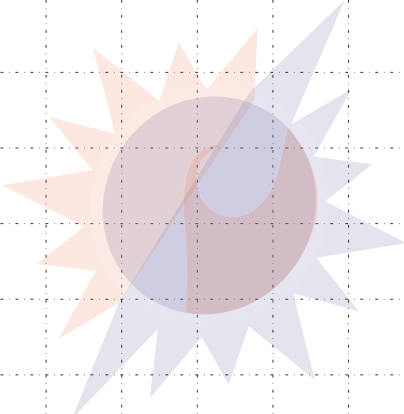
THERMIC SPLLC may also make improvements and/or changes in the products, pricing at any time without notice.
THERMIC SPLLC, its affiliates, agents, employees and all persons acting on its or their behalf disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

THERMIC SPLLC makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any products. To the maximum extent permitted by applicable law, THERMIC SPLLC disclaims any and all liability arising out of the application or use of any product, any and all liability, including without limitation, special, consequential or incidental damages, and any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on THERMIC SPLLC knowledge of typical requirements that are often placed on THERMIC SPLLC products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in particular application.

Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

THERMIC^{sol}



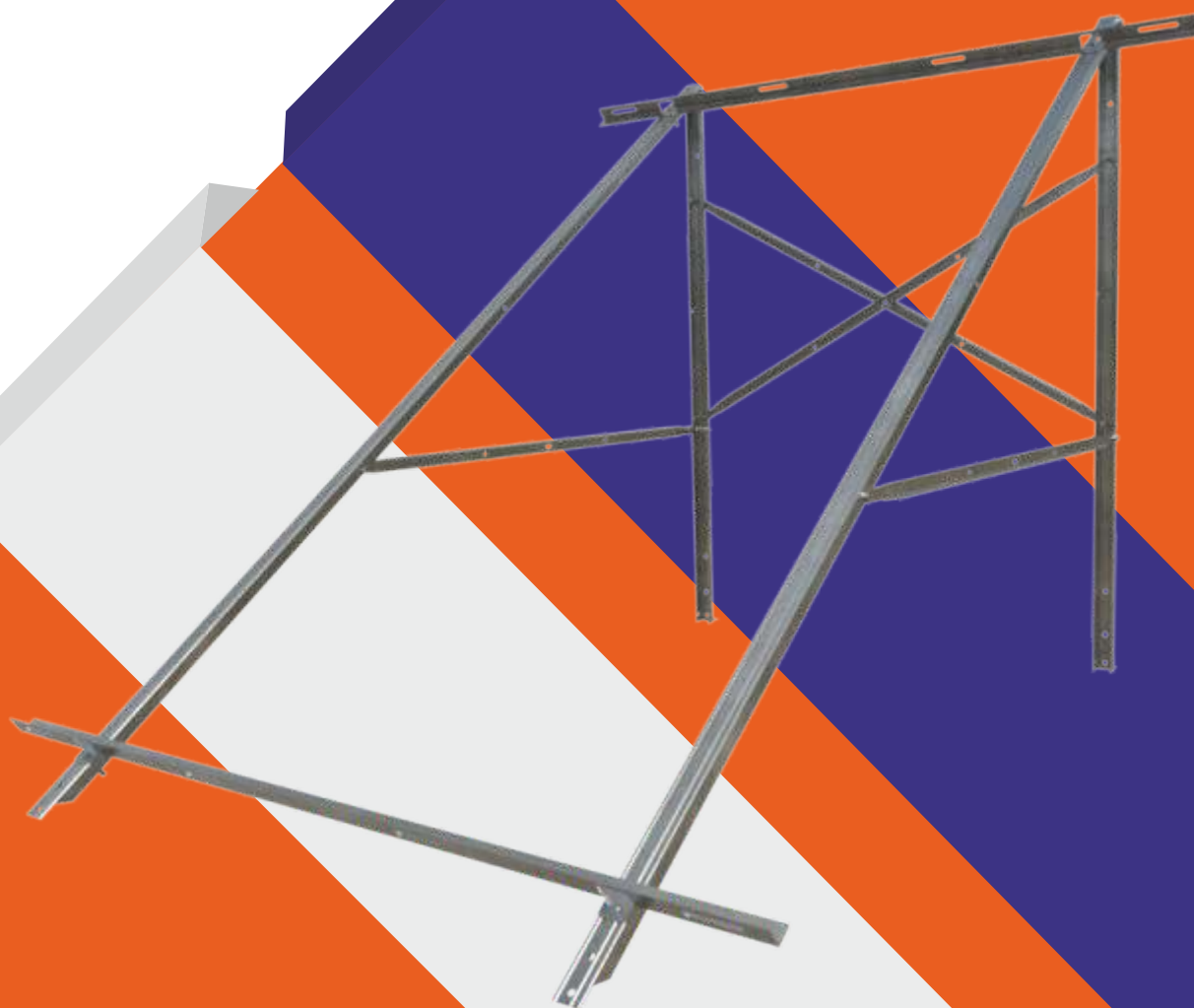


THERMIC^{SOL}

Universal support frame (Forced Circulation)

ASSEMBLY INSTRUCTIONS

THE BRIGHT
SIDE OF ENERGY



www.thermicsol.com



THERMIC^{SOL}

Universal support frame (Forced Circulation)

ASSEMBLY INSTRUCTIONS

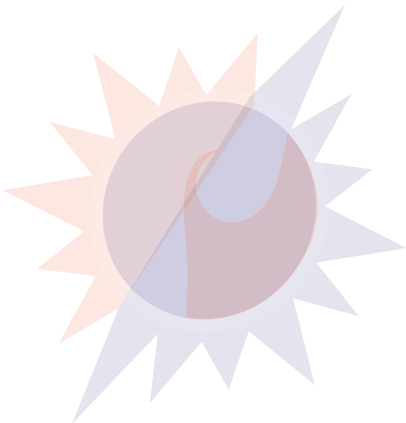
THE BRIGHT
SIDE OF ENERGY



www.thermicsol.com

Contents

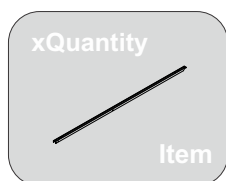
Safety informations	2
Information signs	3
Overview of materials	4
Assembly instructions for flat roof	7
Assembly instructions for inclined roof	15



Safety informations

	Safety precautions: Before commencing mounting work on roofs, it must be ensured in all cases that the non-personal fall protection and fall-arrest systems required by DIN 18338 (Roof Covering and Roof Sealing Works) and DIN 18451 (Scaffolding Works) are in place. See also 7 Builders' Protection Ordinance. Other country-specific regulations must be observed!		Safety harnesses should be fixed above the users whenever possible. Safety harnesses should only be fastened to sufficiently load-bearing structures or fixing points!
	If non-personal fall protection or fall-arrest systems cannot be installed for technical reasons, all personnel must be secured by means of suitable safety harnesses!		Never use damaged ladders (e.g., wooden ladders with split runners or rungs, or bent or buckled metal ladders). Never try to repair broken runners, rungs or steps on wooden ladders!
	Only use safety harnesses (safety belts, lanyards and straps, shock absorbers, fall arresters) that were tested and certified by authorized testing bodies.		Ensure that ladders are put up safely. Observe the correct leaning angle (68° - 75°). Prevent ladders from sliding, falling over or sinking into the ground (e.g. using wider feet, feet suited to the ground or hooking devices).
	If non-personal fall protection or fall-arrest systems are not provided, working without the use of suitable safety harnesses may lead to falls from heights and therefore cause serious or lethal injuries!		Only lean ladders against secure points. Secure ladders in traffic areas by suitable cordoning.
	Ladders not properly secured against sinking in, sliding or falling over may lead to dangerous falls!		Contact with live electric overhead cables can be lethal.
	Whenever you are near live overhead electric cables where contact is possible, only work if:		Wear protective goggles when drilling and handling collector!
	- it is ensured that they are voltage-free and this is secured for the duration of work. - the live parts are secured by covering them or cordoning them off. - the prescribed safety distances are maintained.		Wear safety shoes when carrying out installation work!
	Voltage radius: 1 m voltages up to 1000V 2 m voltages from 1000V to 11000V 3 m voltages from 11000V to 22000V 4 m voltages from 22000V to 38000V >5 m in case of unknown voltages		Wear cut-proof safety gloves when mounting collectors!
	Only the heat transfer medium specified may be used!		Wear a helmet when carrying out installation work!

Information signs



Indicates specific item & quantity



Attention



See page #



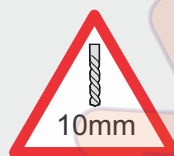
Damage to collector(s)



Heavy



Use washer



Use 10mm drill



Tighten with specified torque



Retighten with specified torque AGAIN EVERY NUT AND BOLT

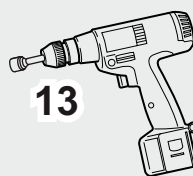
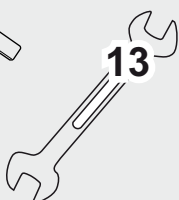
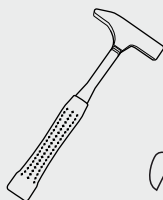
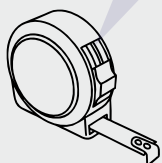


Use ONLY the indicated bolt

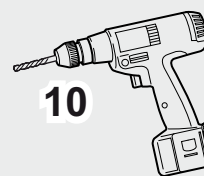


Position the frame to the exact place according to your specific geographic location

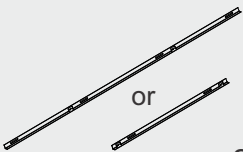
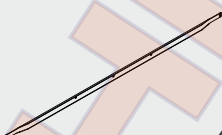
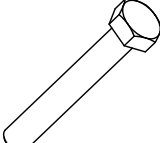
Tools needed

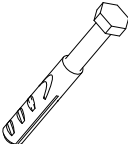
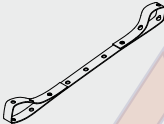
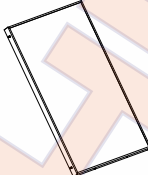


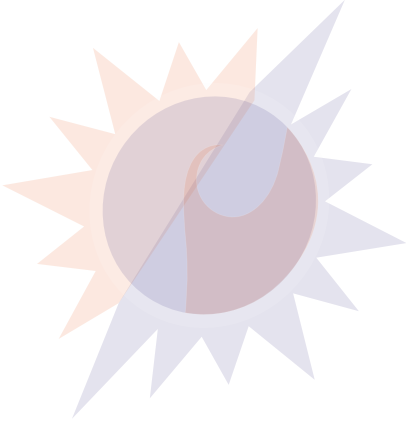
or



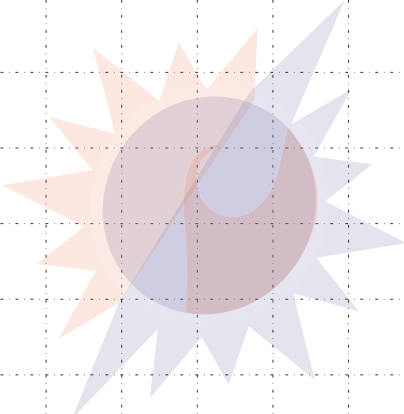
Overview of materials

NAME	QUANTITY	ITEM	DESCRIPTION
Profile 1	2	 1	Structural Profile. Supports the solar collector(s).
Collector Bracket	2	 2	Secures the collector onto the base. Two discreet sizes, for 1 or 2 collectors.
Profile 2	2	 3	Structural profile. Used either as the base on the flat roof format, or as the beam of the universal support frame for the inclined roof format.
Fastening Joint	4	 4	Secures the tank base and joints it with the solar panel profile. For 300lt support frame 2 extra are needed (see Step 3b).
Hex head screw grade C M8x1.25 x 12 Steel Grade 8	4 OR 8	 5	Hex head screw grade C M8x1.25 x 12 Steel Grade 8.
Hex head screw grade C M8x1.25 x 20 Steel Grade 8	14	 6	Hex head screw grade C M8x1.25 x 20 Steel Grade 8
Hex head screw grade C M8x1.25 x 55 Steel Grade 8	9	 7	Hex head screw grade C M8x1.25 x 55 Steel Grade 8
Hex nut grade C M8x1.25 Steel Galvanized	32	 8	Hex nut grade C M8x1.25 Steel Galvanized

NAME	QUANTITY	ITEM	DESCRIPTION
Chamfered plain washer normal M8	4 OR 8	 10	Chamfered plain washer normal M8
Wall Screw & Plug	4	 11	Wall Screw & Plug
Fastening Strip	4	 12	Ties profile 2 to the beam of the inclined roof under the roof tiles.
Solar Collector	1 or 2	 13	Solar Collector

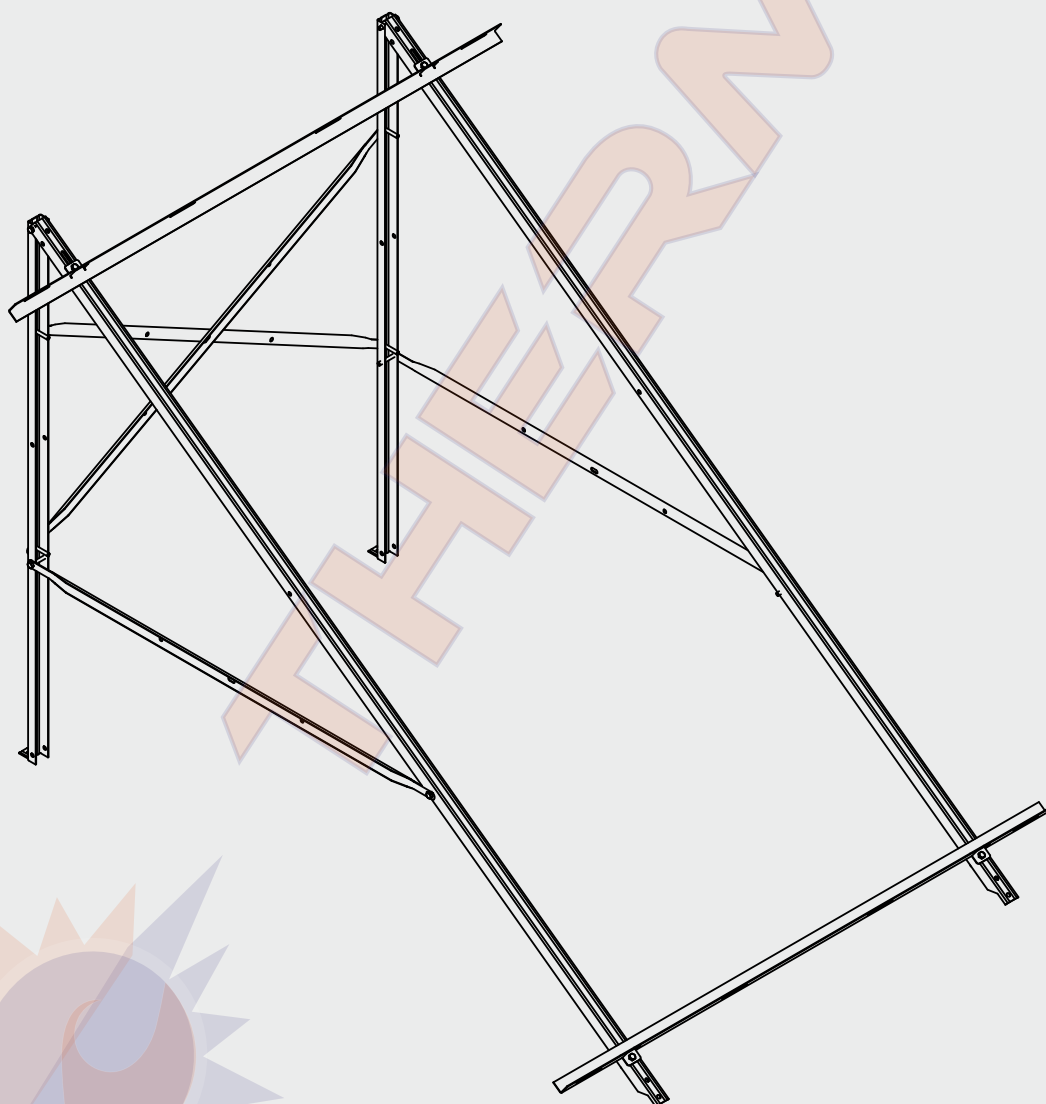


THERMIC^{sol}

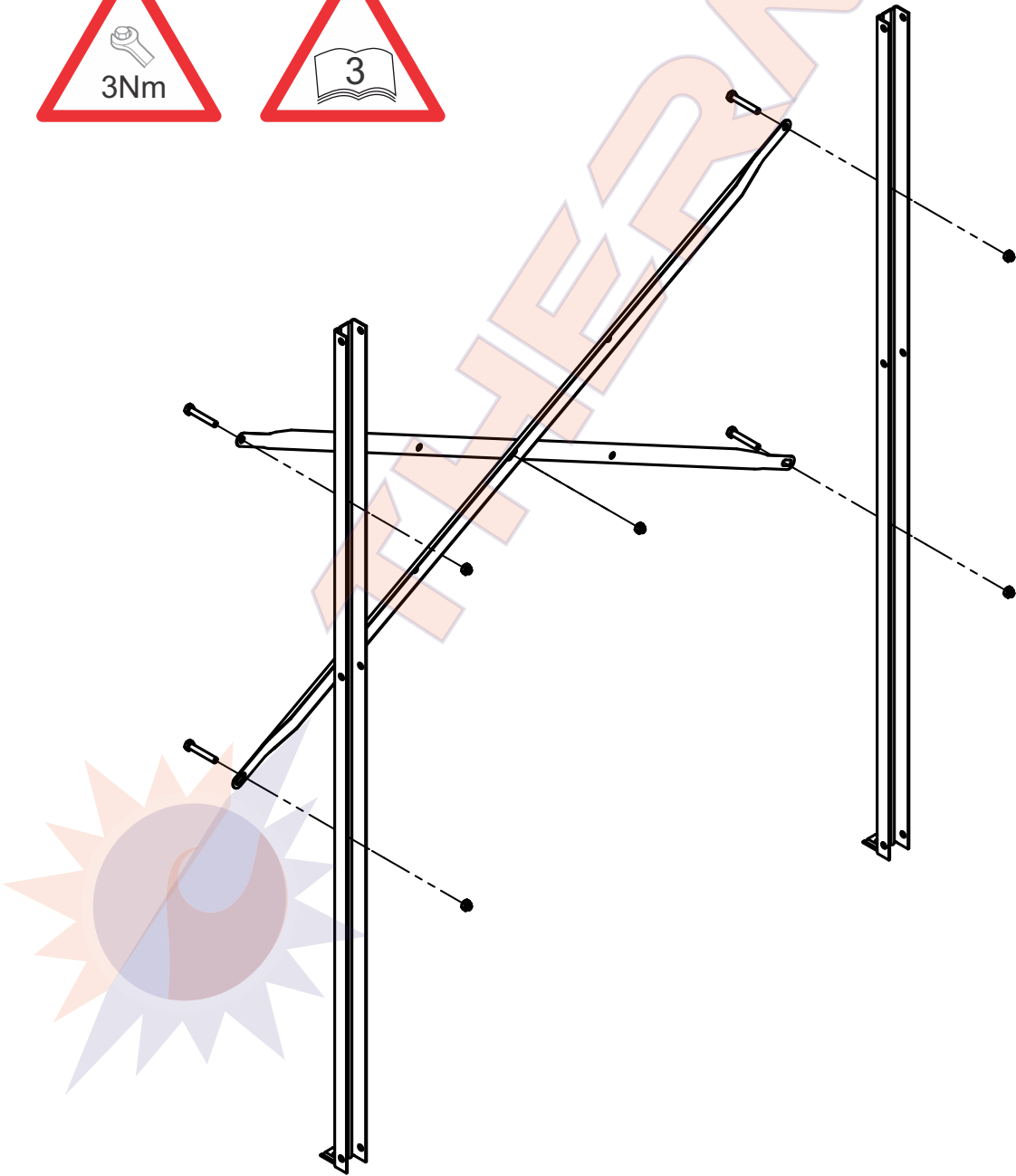
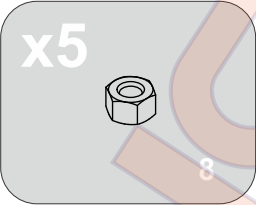
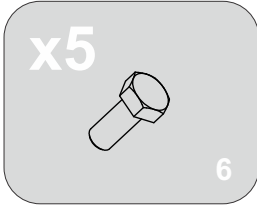
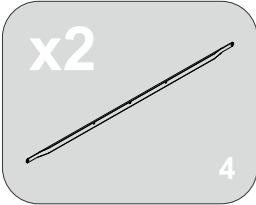
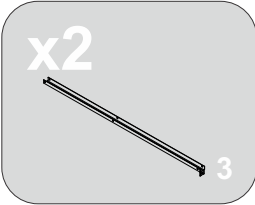
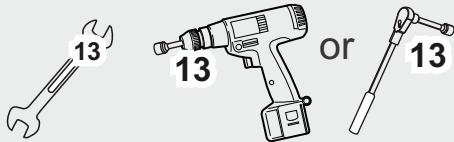


Assembly instructions for flat roof

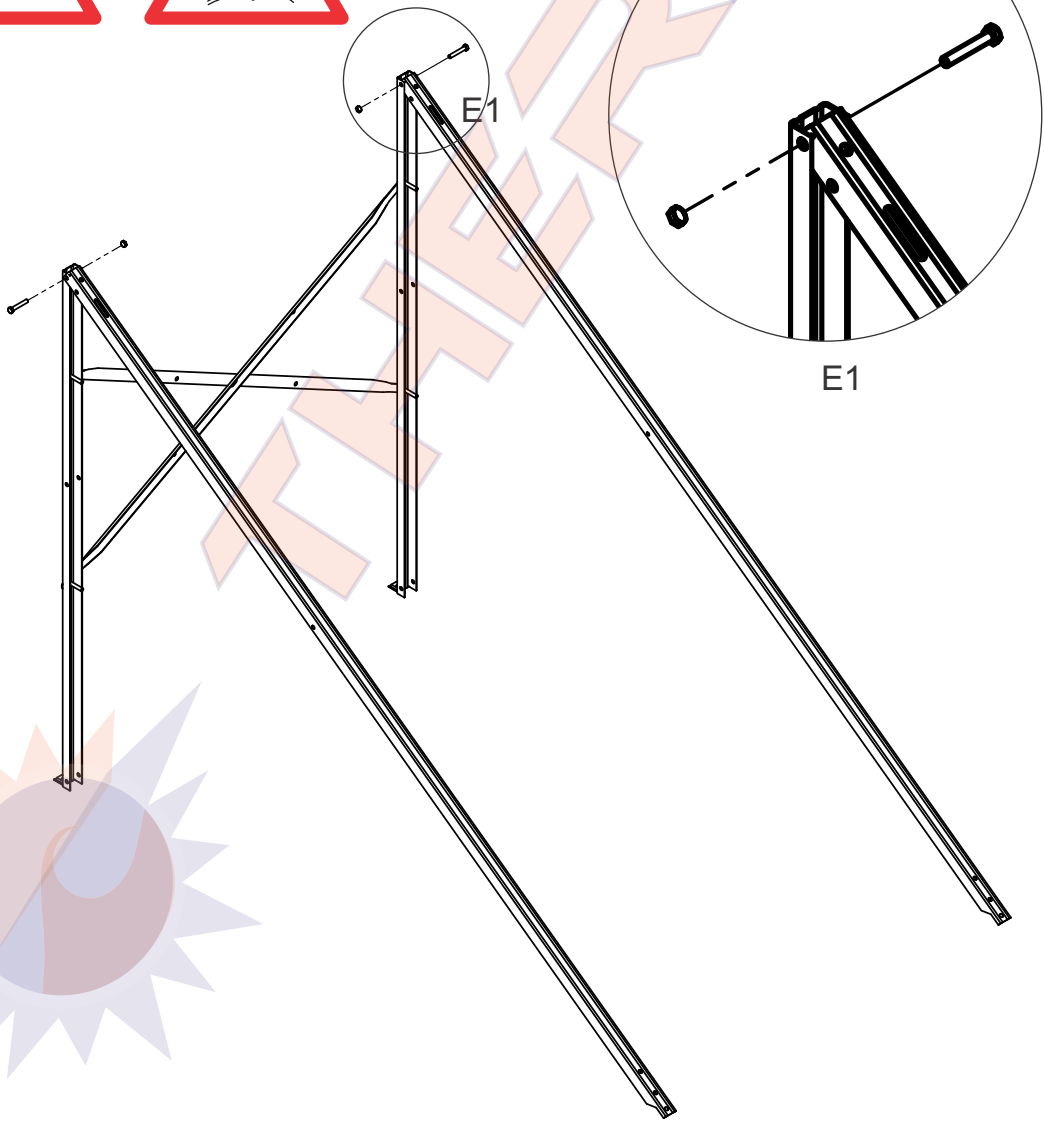
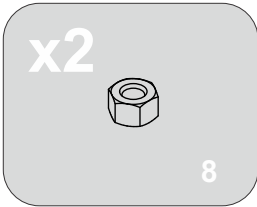
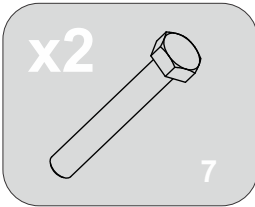
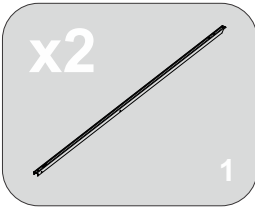
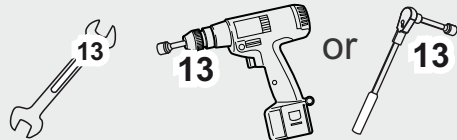
Flat Roof Forced Circulation Support Frame



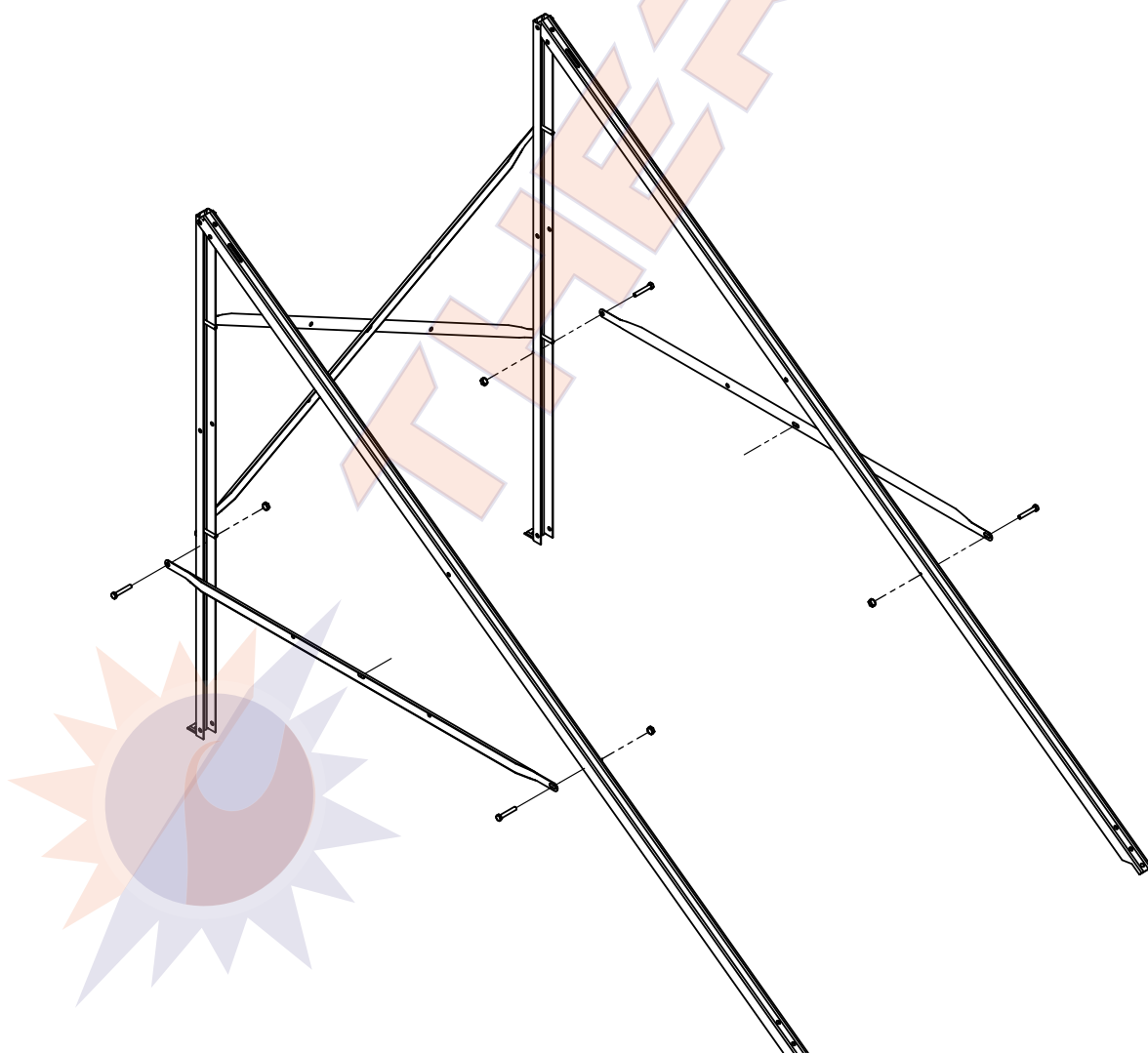
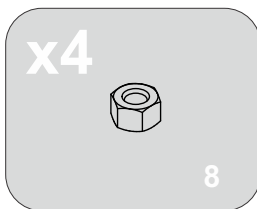
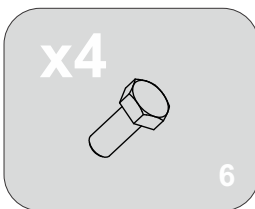
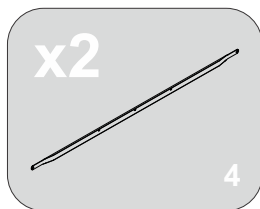
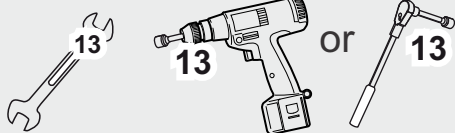
1



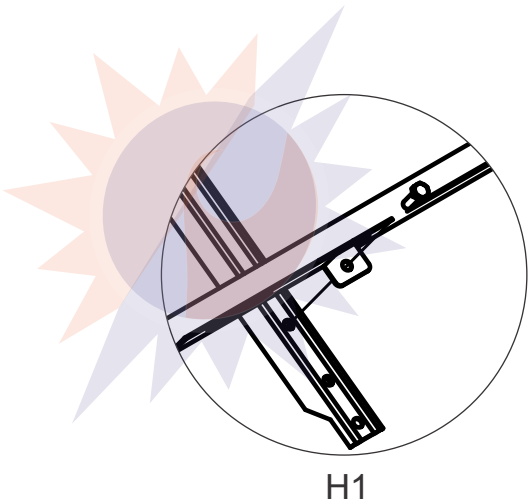
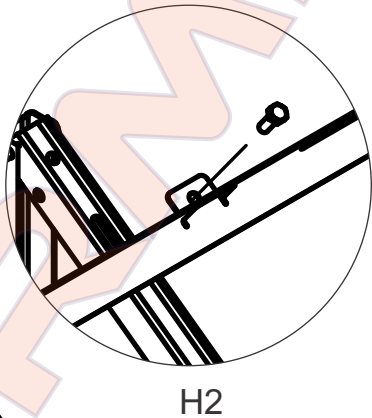
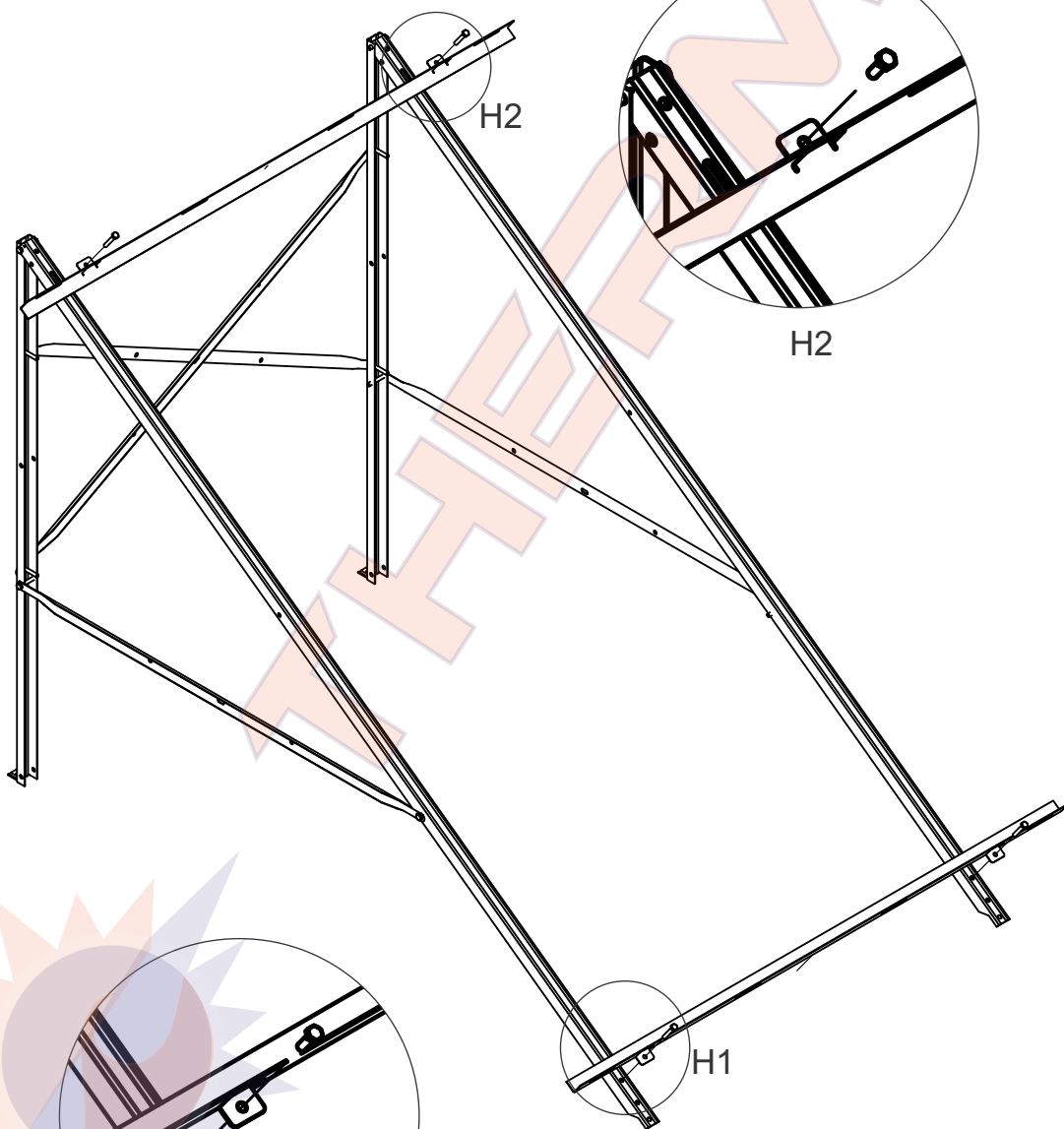
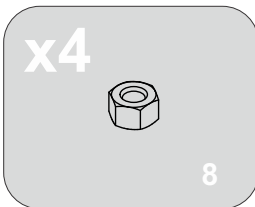
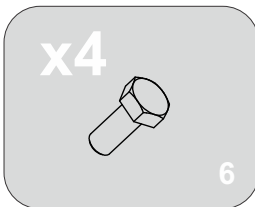
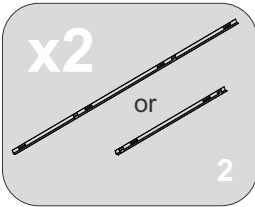
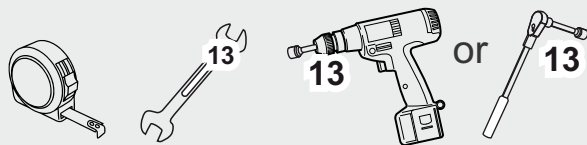
2



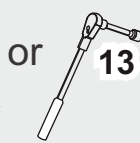
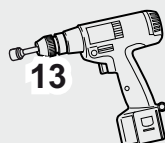
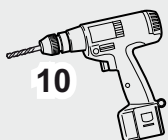
3



4



5



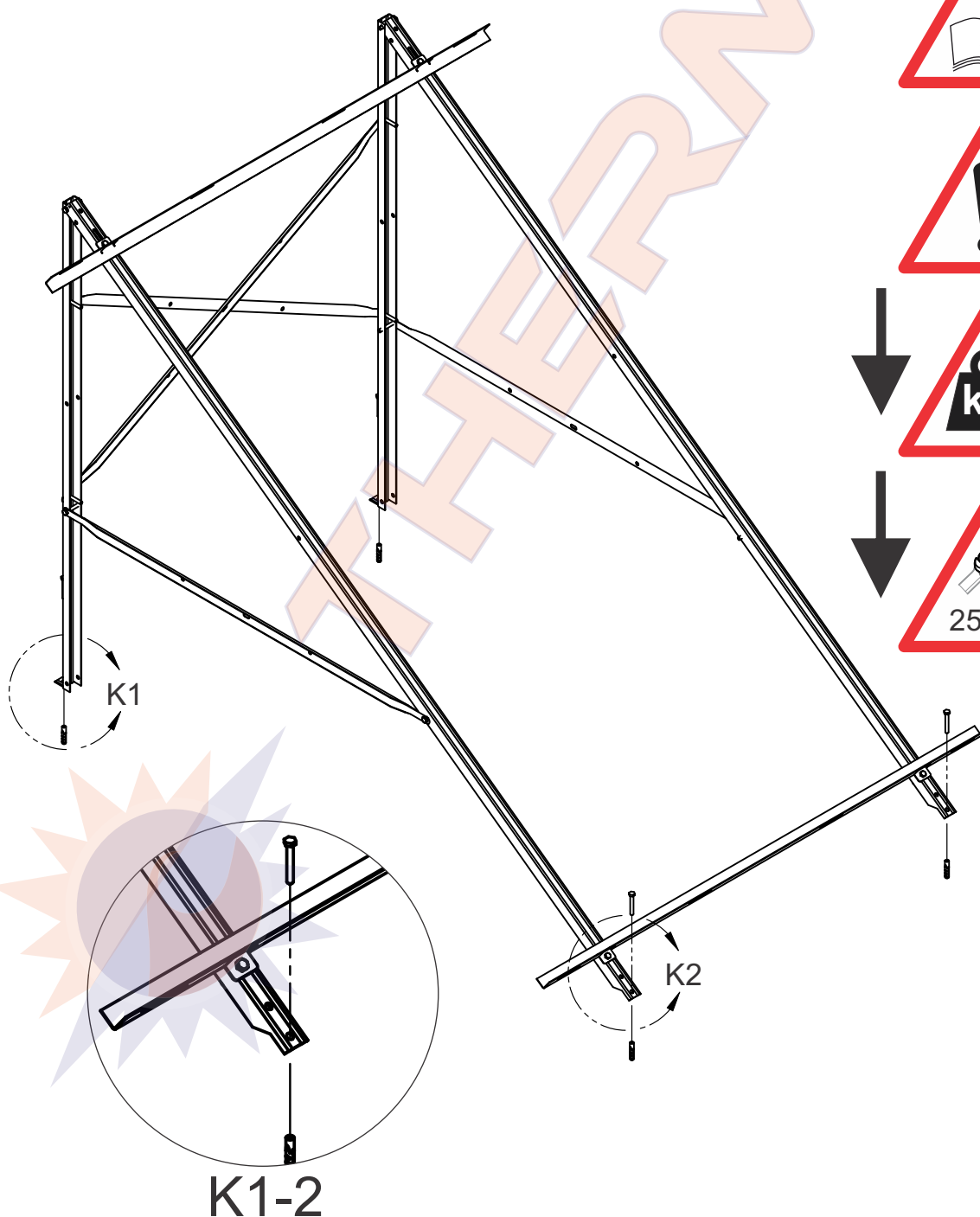
or

13

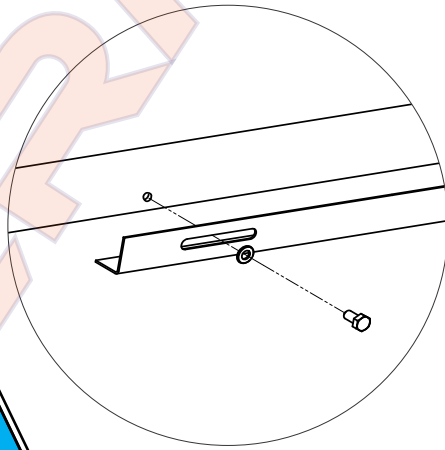
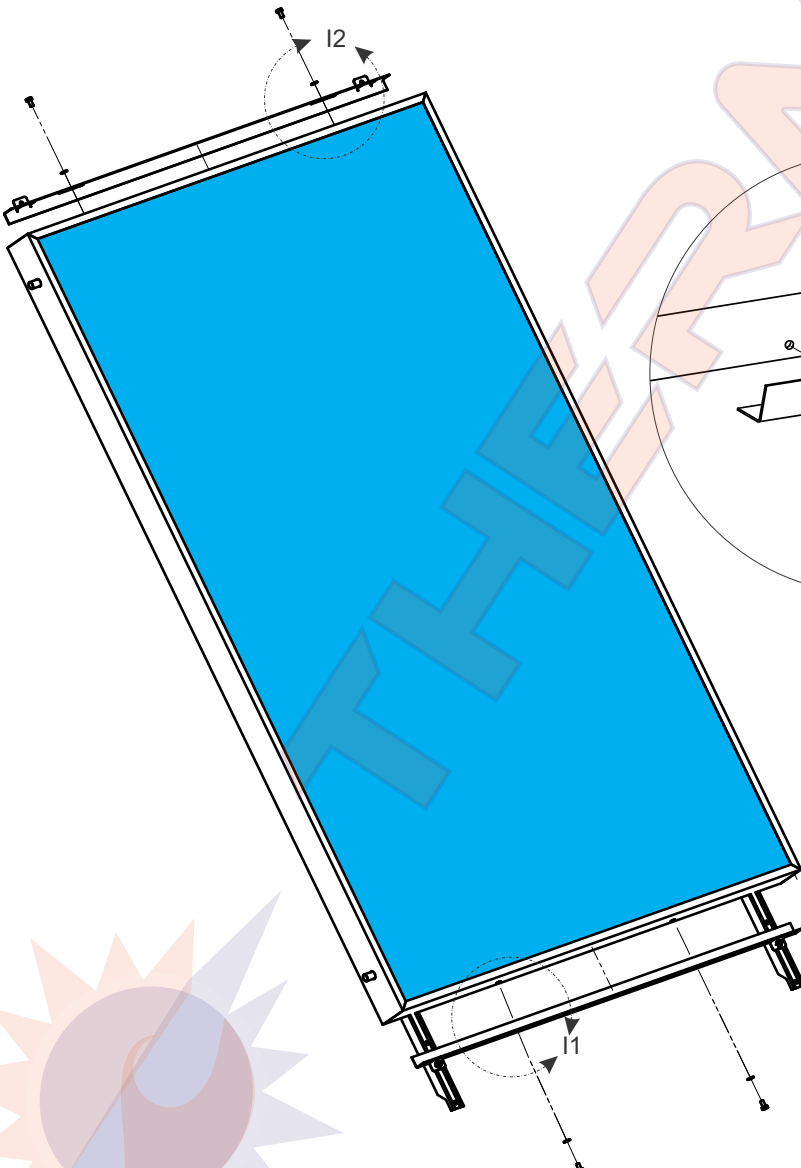
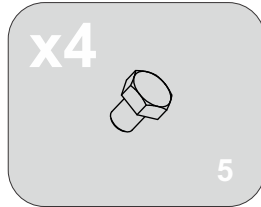
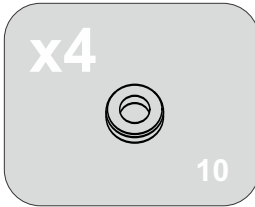
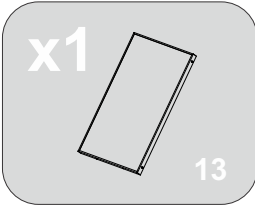
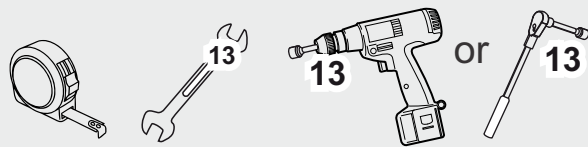
x4



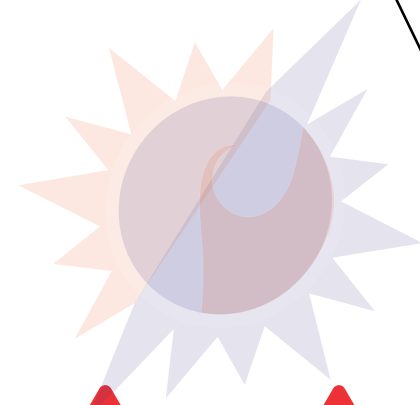
11



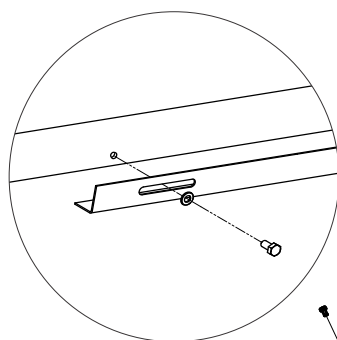
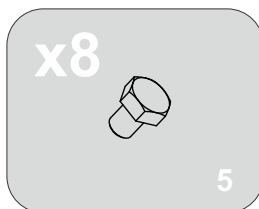
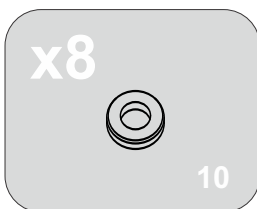
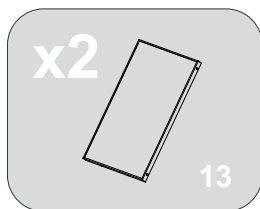
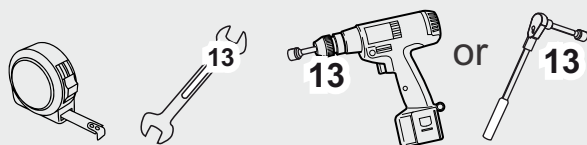
6.1



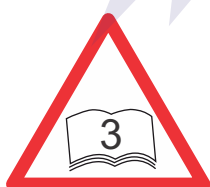
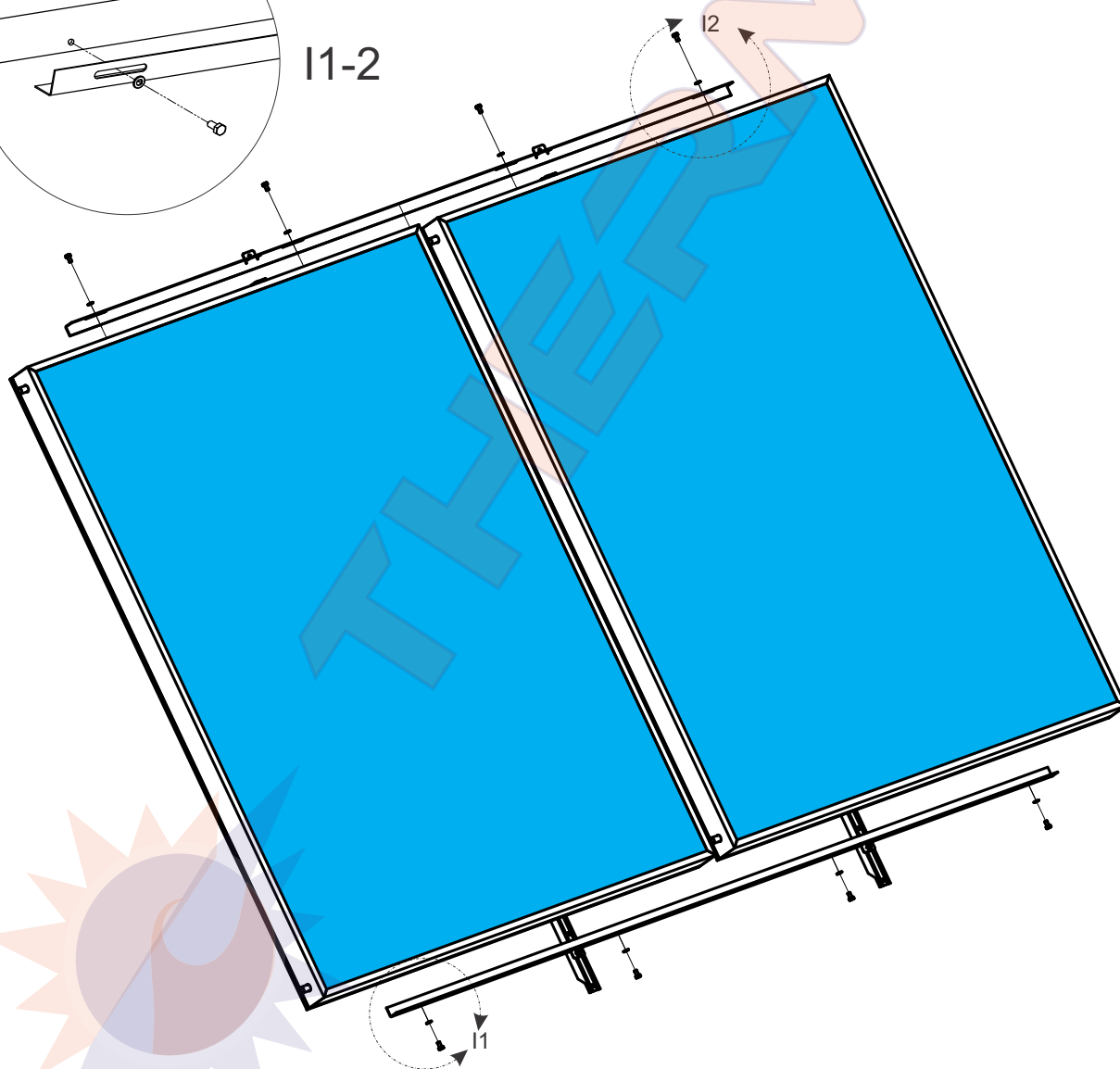
I1-2



6.2

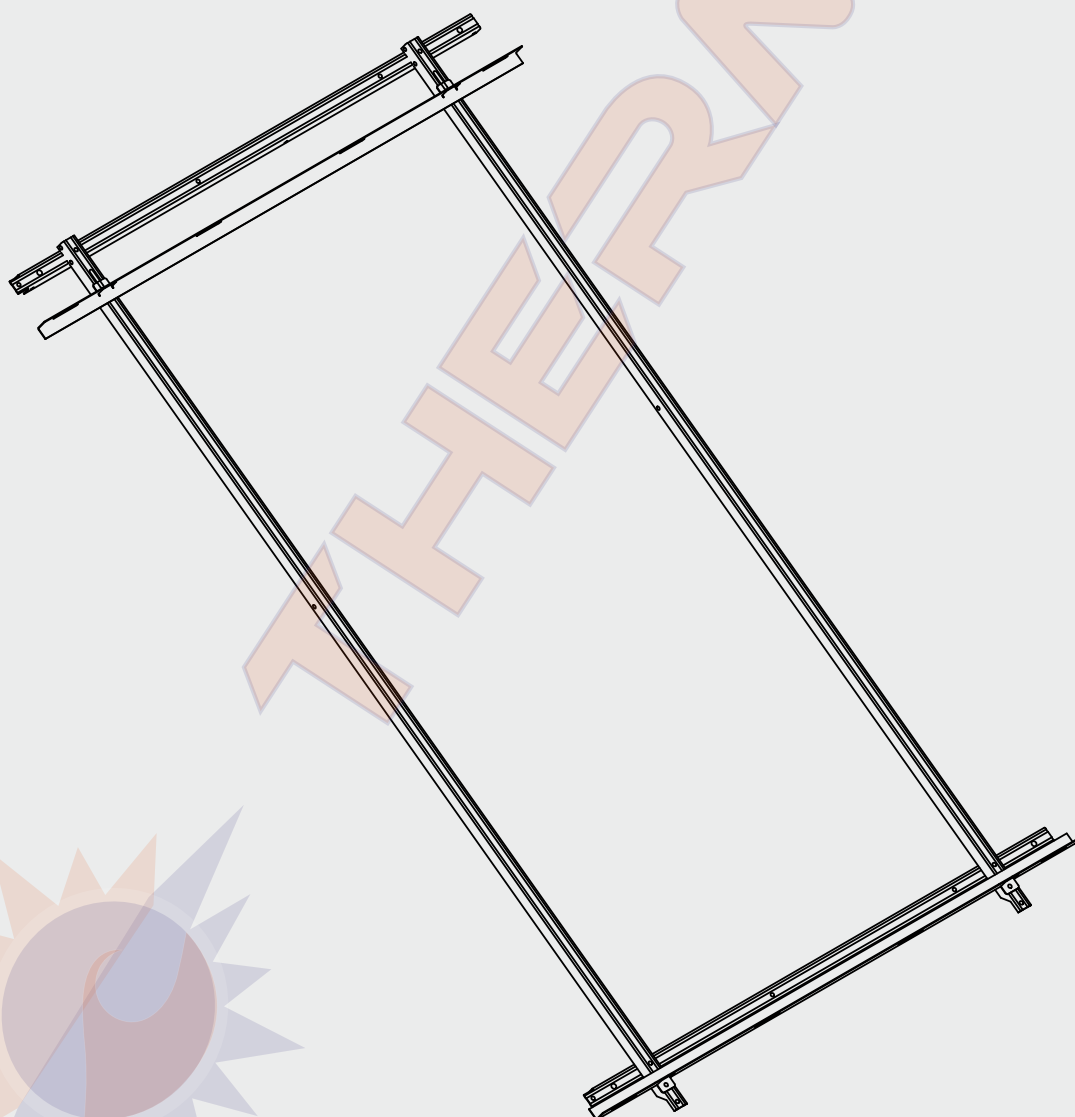


I1-2

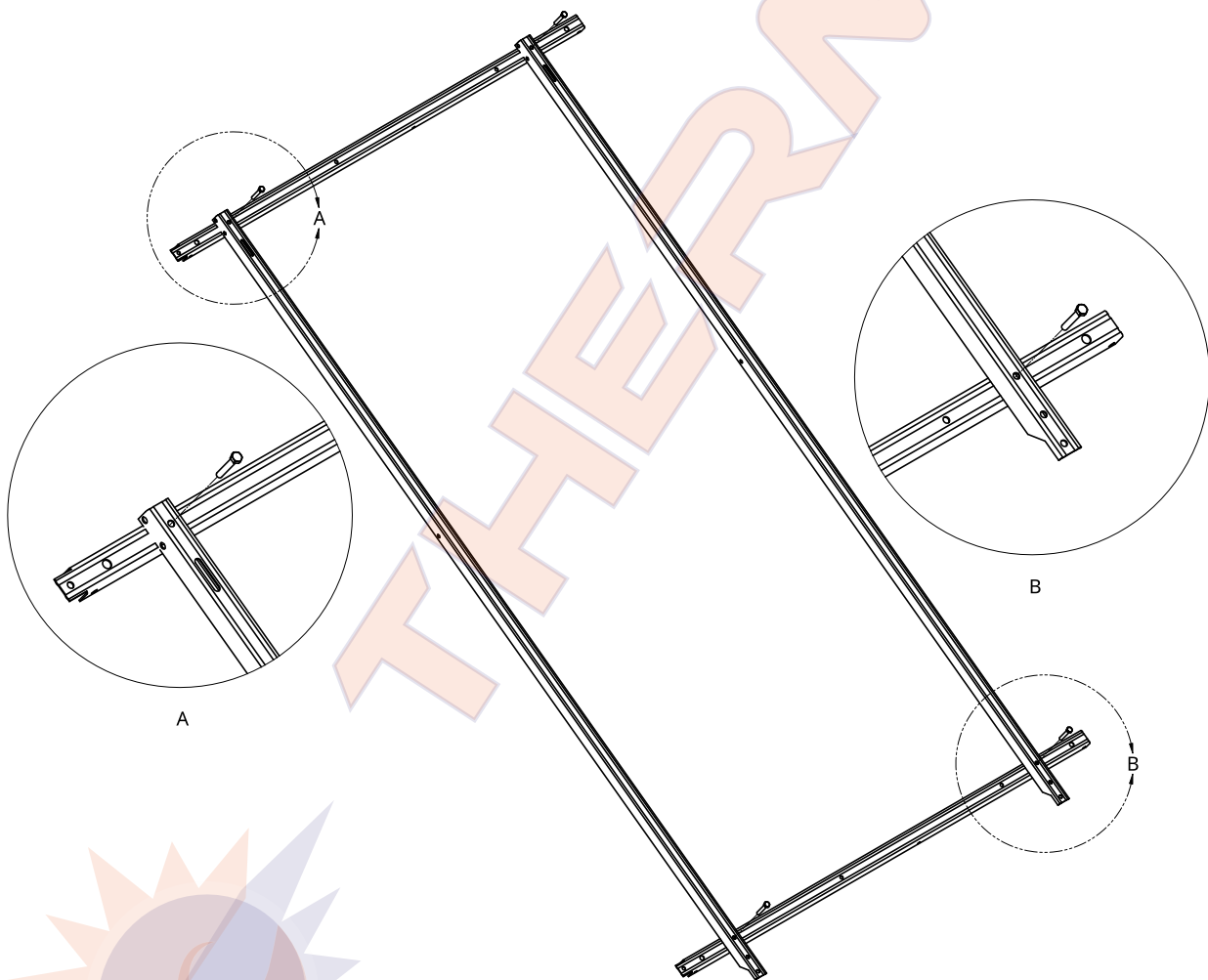
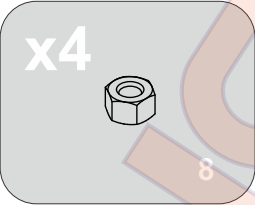
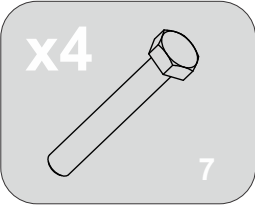
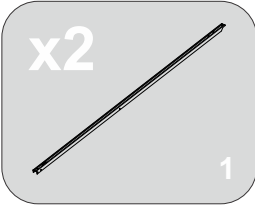
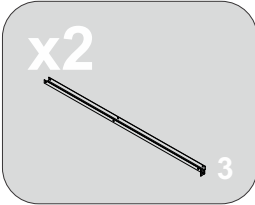
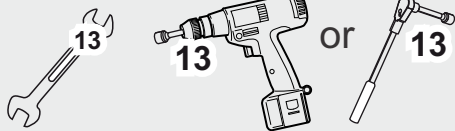


Assembly instructions for inclined roof

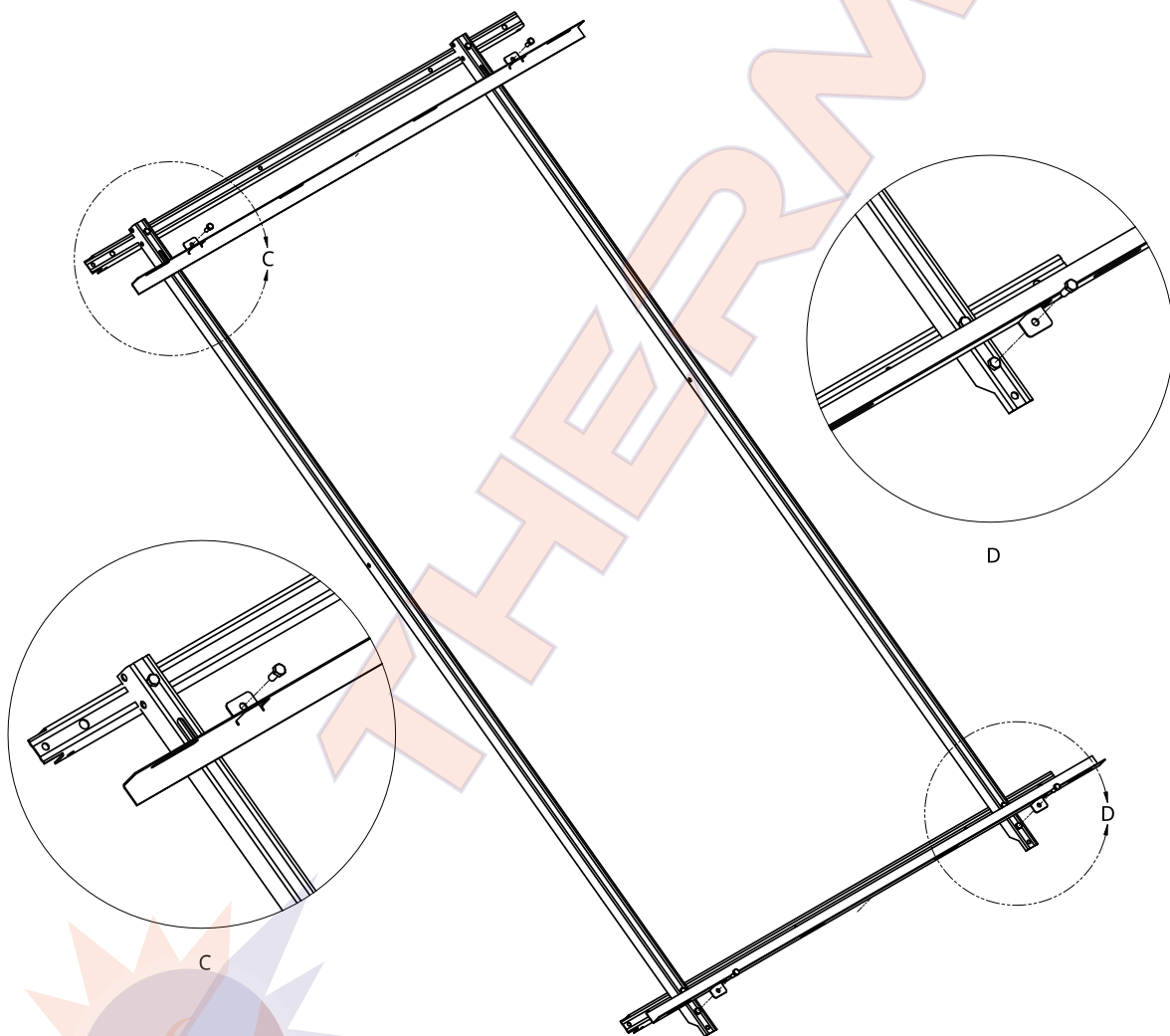
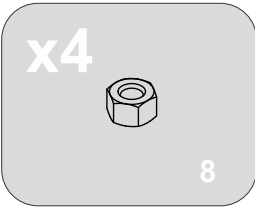
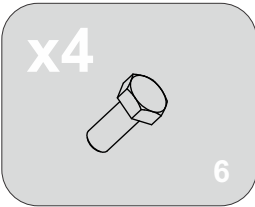
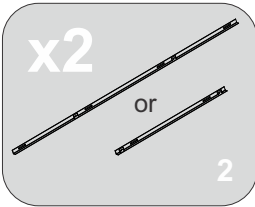
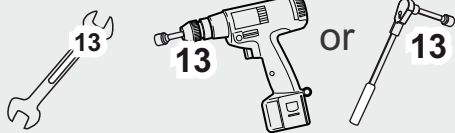
Inclined Roof Forced Circulation Support Frame



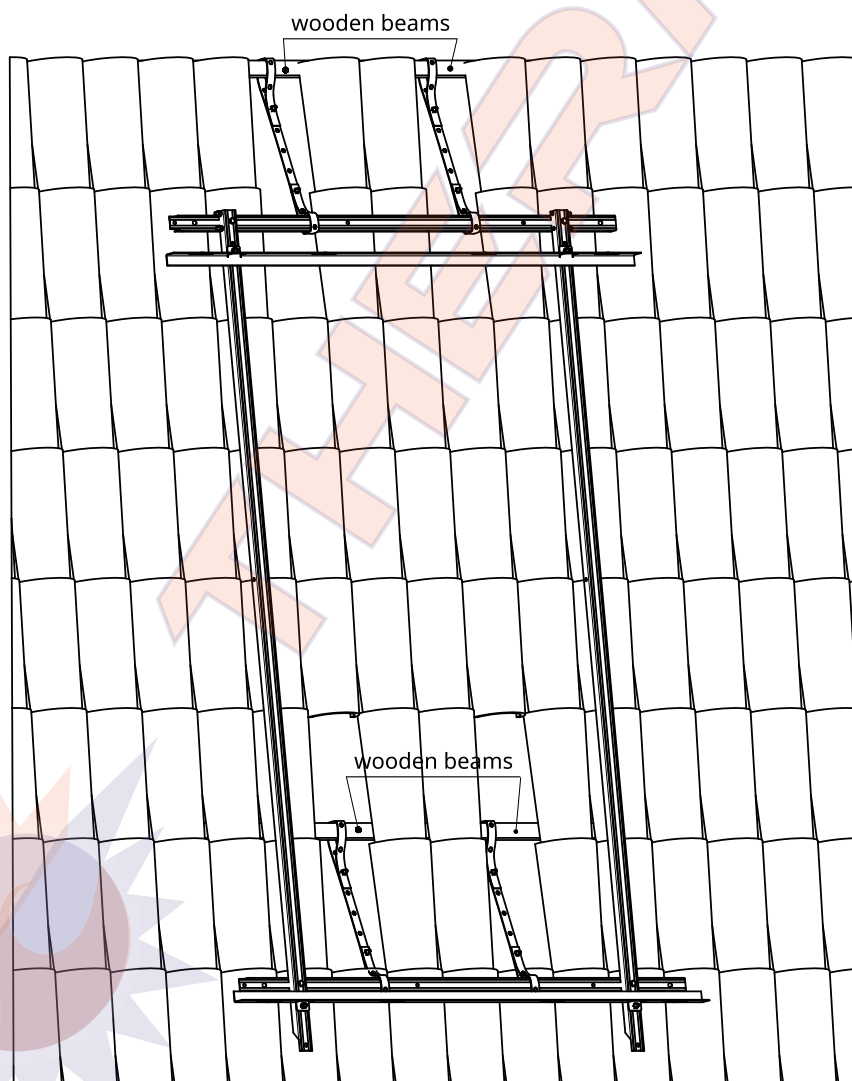
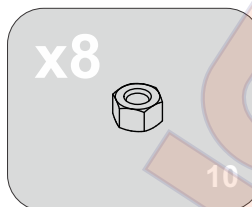
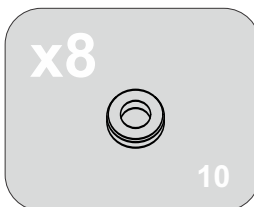
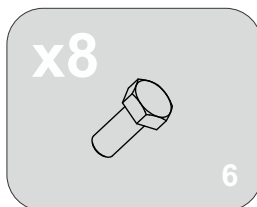
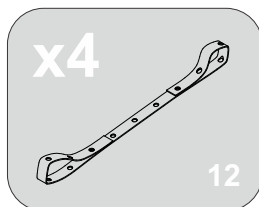
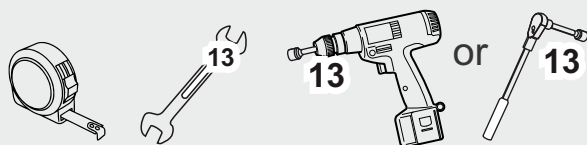
1



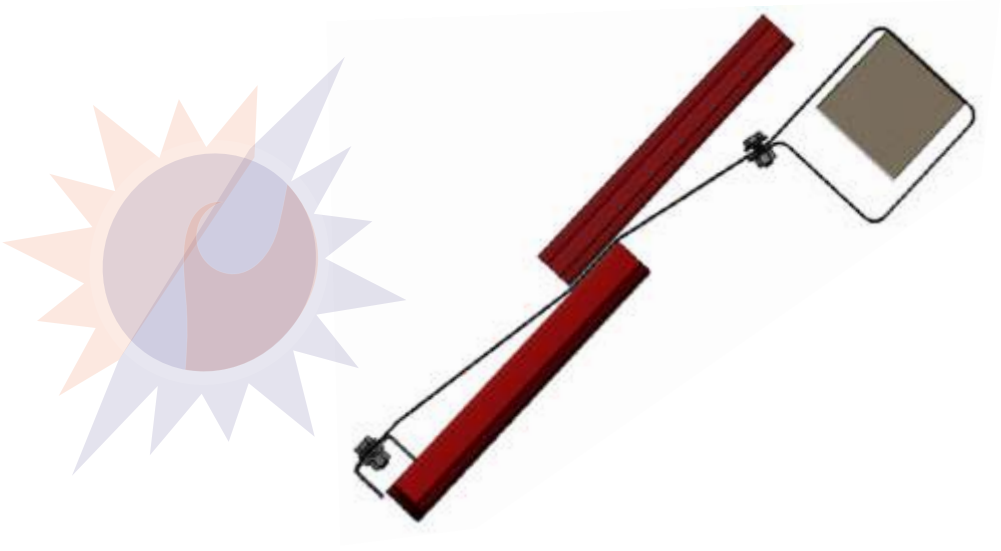
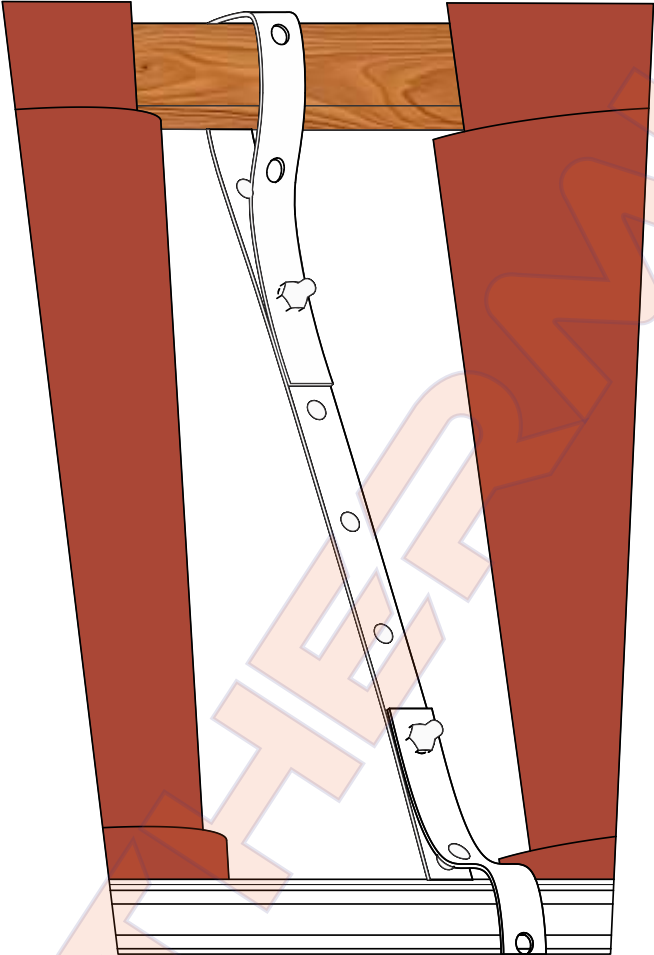
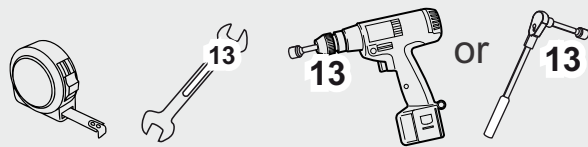
2



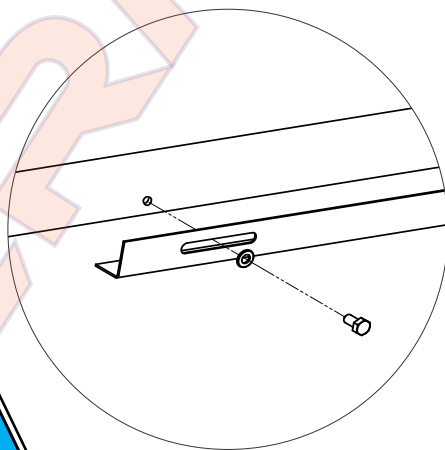
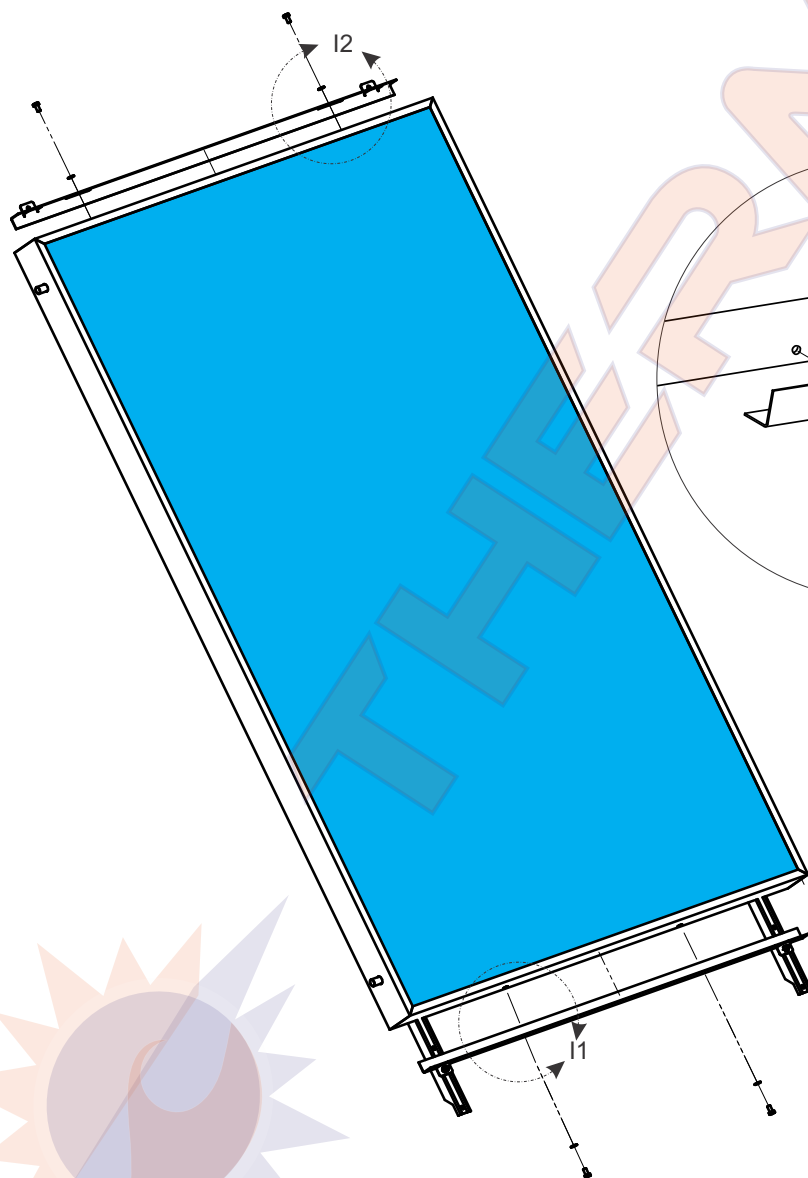
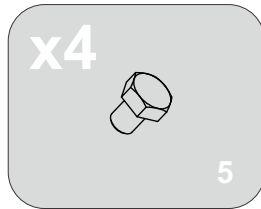
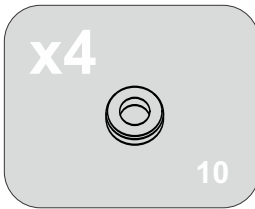
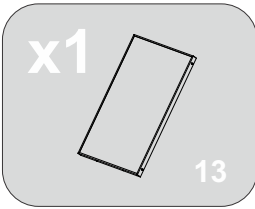
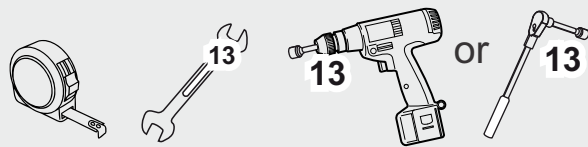
3.1



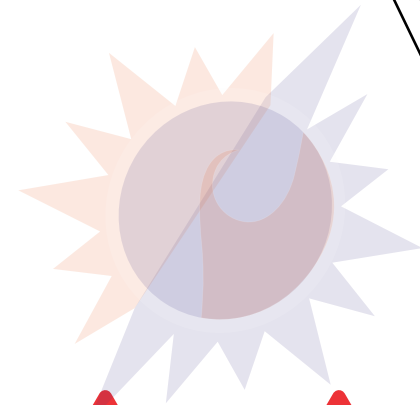
3.2



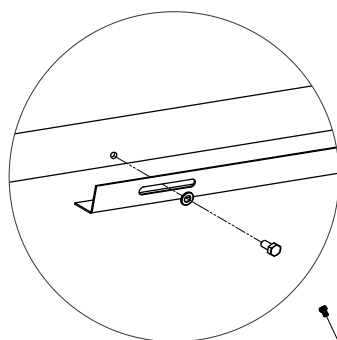
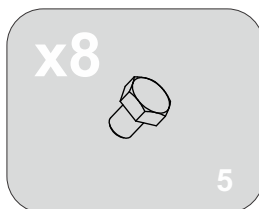
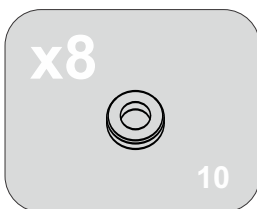
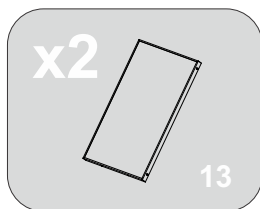
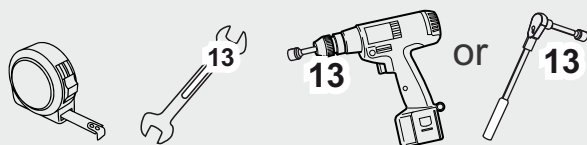
4.1



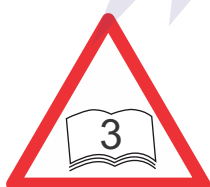
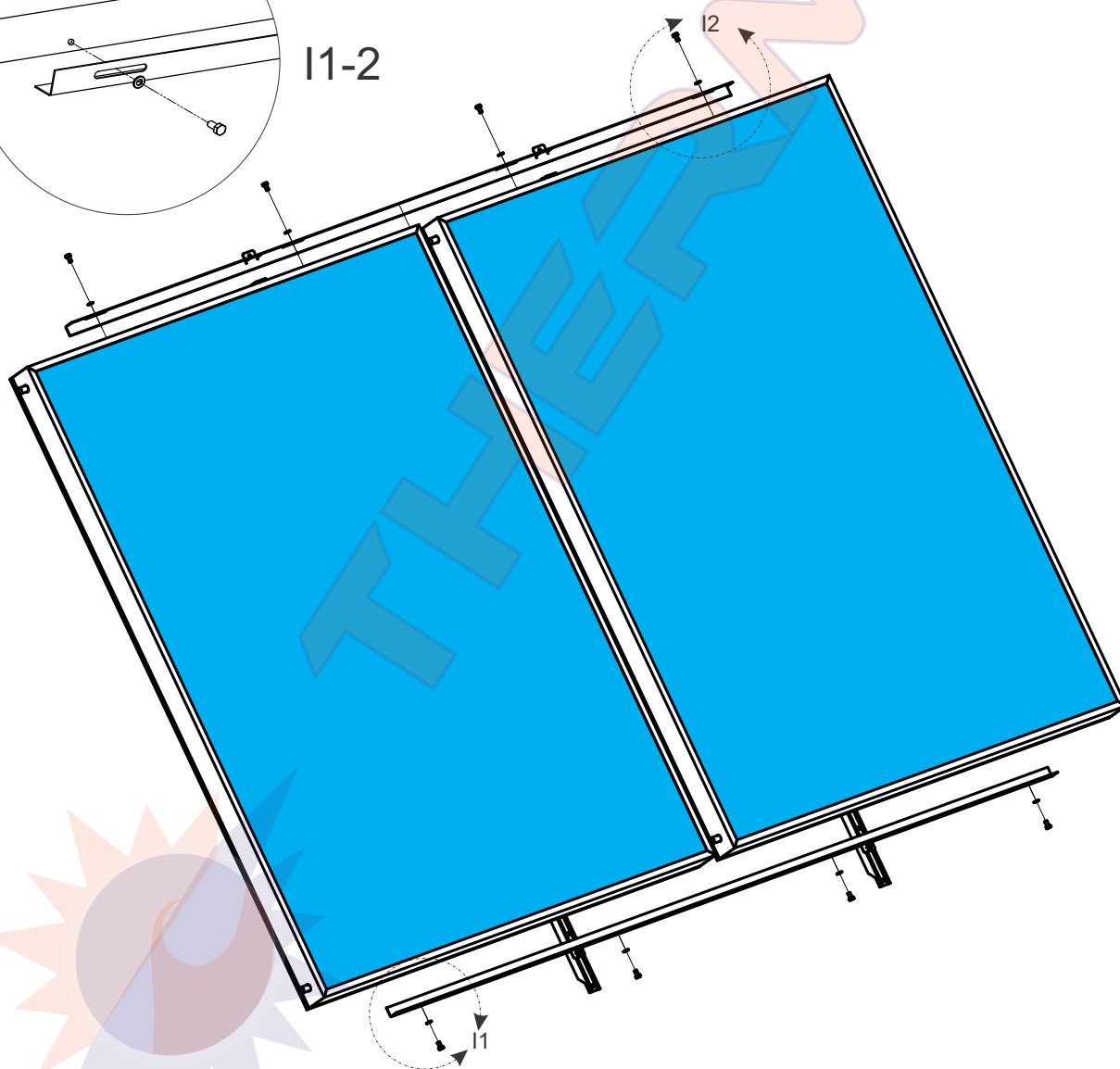
I1-2



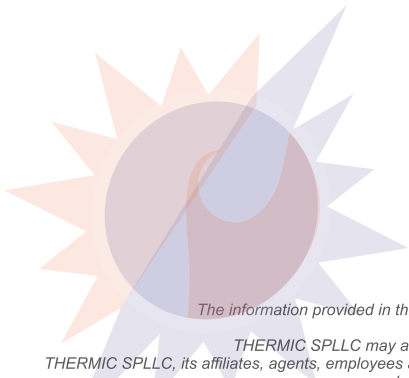
4.2



I1-2



THERMIC^{sol}



*The information provided in this document is intended for informational purposes only and is subject to change without notice.
Information may be changed or updated without notice.*

*THERMIC SPLLC may also make improvements and/or changes in the products, pricing at any time without notice.
THERMIC SPLLC, its affiliates, agents, employees and all persons acting on its or their behalf disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.*

THERMIC SPLLC makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any products. To the maximum extent permitted by applicable law, THERMIC SPLLC disclaims any and all liability arising out of the application or use of any product, any and all liability, including without limitation, special, consequential or incidental damages, and any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on THERMIC SPLLC knowledge of typical requirements that are often placed on THERMIC SPLLC products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.