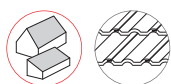


ASSEMBLY INSTRUCTIONS

CrossHook 2 System



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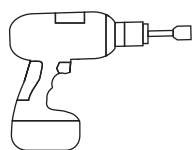
QUALITY TESTED – SEVERAL CERTIFICATIONS

K2 Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:
www.k2-systems.com/en/technical-information



Tools overview



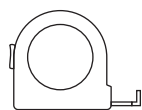
25 / 40



6-30Nm
(4,5-22,2 lb-ft)



6mm



≥3,0m



≥6,0m



General safety information

Please note that our general mounting instructions must be followed at all times and can be viewed online at www.k2-systems.com/en/technical-information.

- ▶ The equipment may only be installed and operated by qualified and adequately trained installers.
- ▶ Prior to installation, ensure that the product complies with on-site static loading requirements. For roof-mounted systems, the roof load-bearing capacity must always be checked.
- ▶ National and local building regulations and environmental requirements must be adhered to.
- ▶ Compliance with health and safety regulations, accident prevention guidelines and applicable standards is required.
 - Protective equipment such as safety helmet, boots and gloves must be worn.
 - Roofing works must be in accordance with roofing regulations utilising fall protection safeguards when eaves height exceeds 3 m.
 - At least two people must be present for the duration of the installation work in order to provide rapid assistance in the event of an emergency.
- ▶ K2 mounting systems are continuously developed and improved and the installation process may thereby change at any time. Prior to installation consult our website at www.k2-systems.com/en/technical-information for up-to-date instructions. We can send you the latest version on request.
- ▶ The assembly instructions of the module manufacturer must be adhered to.
- ▶ Equipotential bonding/grounding/earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.
- ▶ At least one copy of the assembly instructions should be available on site throughout the duration of the installation.
- ▶ Failure to adhere to our general safety and assembly instructions and not using all system components, K2 is not liable for any resulting defects or damages. We do not accept liability for any damage resulting in the use of competitor's parts. Warranty is excluded in such cases.
- ▶ German law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart. Our General Terms of Business apply.
- ▶ If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 12 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at www.k2-systems.com/en/technical-information
We will also send this information on request.
- ▶ Dismantling of the system is performed in reverse order to the assembly.
- ▶ K2 stainless steel components are available in different corrosion resistance classes. Each structure or component must be carefully checked for possible corrosion exposure.

The following guidelines apply



The CrossHook system can be used without further testing by K2 systems in the following standard conditions. To calculate maximum distances between supports we recommend using our calculation tool K2Base. The system is also suitable for higher requirements. However, if a value exceeds the standard conditions, please contact K2 Systems.



ROOF REQUIREMENTS

- ▶ The sufficient holding force of the roof covering at the support or substructure must be ensured on site.
- ▶ Roof pitch of 5 – 75°

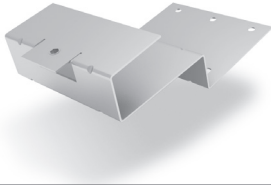


IMPORTANT MOUNTING INSTRUCTIONS

- ▶ On-site general standards and regulations for lightning protection must be observed and consultation with a specialist to create a lightning protection concept is recommended (use lightning protection clamp if necessary).
- ▶ We recommend a thermal separation after maximum of 17.6 m.
- ▶ Do not use Middle and End Clamp set at rail joints. Distance to rail joint min. 20 mm.
- ▶ Minimum spacing of 50 mm between rail end and module frame.
- ▶ Tightening torque for all module clamps 14 Nm.
- ▶ For manufacturer information regarding clamps see the manufacturing module data sheet.
- ▶ To avoid tiles breaking under high snow loads, arrange for supporting the bracket with a suitable metal support plate.
- ▶ Do not step on roof hooks or rails, aren't climbing assists.
- ▶ Sizing and positioning of the wood screws are subject to the relevant regulations.
- ▶ Dimensioning and positioning of the woodscrews subject to the European Technical approvals (ETA) of the screw manufacturers.
- ▶ Special requirements apply with on-rafter insulation or counter battening: special fit-for-purpose spacer screws have to be used.

Essential: The materials required

All system components listed in the following are essential for assembling the K2 Systems CrossHook 2 system. The piece quantities are calculated on the basis of the respective requirements. The listed item numbers facilitate the comparison of items.



K2 CrossHook 2

| 1004900

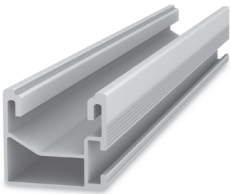
Material: Stainless Steel (1.4301)



K2 Self-drilling wood screw round head

| Article number system-specific

Material: stainless steel A2, bit TX 25 for M6, TX 40 for M8



Mounting Rail K2 SingleRail

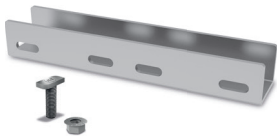
| Article number system-specific

Material: aluminium EN AW-6063 T66

Alternatively: Mounting Rail K2 CrossRail

Material: aluminium EN AW-6063 T66

| Article number system-specific



K2 SingleRail 36 Rail connector Set

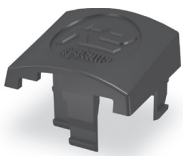
| Article number system-specific

Material: aluminium EN AW-6063 T66, stainless steel A2

Alternatively: K2 CrossRail 36 Rail connector Set

Material: aluminium EN AW-6063 T66, stainless steel A2

| Article number system-specific



K2 EndCap SingleRail 36

| 1004767

Material: glass fibre reinforced PA



K2 Universal module middle clamps OneMid

| 2002515

Module frame height: 32 - 42 mm

Alternatively: K2 Module Middle Clamp XS Set

| Article number system-specific



K2 Universal module end clamps OneEnd

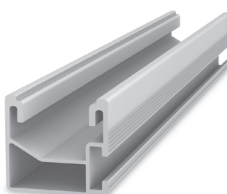
| 2002514

Module frame height: 32 - 42 mm

Alternatively: K2 Module End Clamp Standard Set

| Article number system-specific

ADDITIONAL MATERIAL FOR CROSS BRACING



Mounting Rail K2 SingleRail

| Article number system-specific

Material: aluminium EN AW-6063 T66

Alternatively: Mounting Rail K2 CrossRail
Material: aluminium EN AW-6063 T66

| Article number system-specific



K2 Climber 36/48 Set

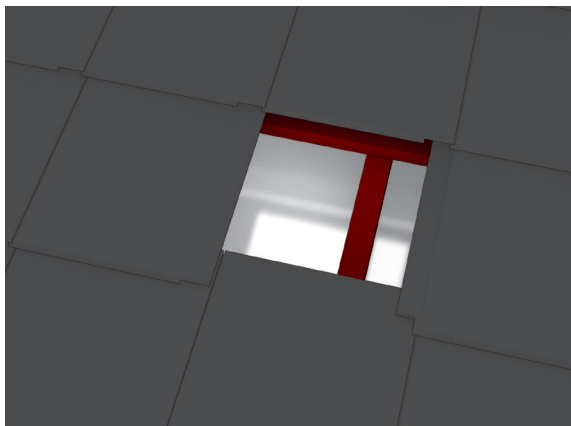
| 1006041

The set consists of:

- ▶ 1 Climber 36/48 (1004046), aluminium EN AW-6063 T66
- ▶ 1 Allen bolt M8x25, stainless steel A2
- ▶ 1 MK2 Slot nut with clip, stainless steel and PA

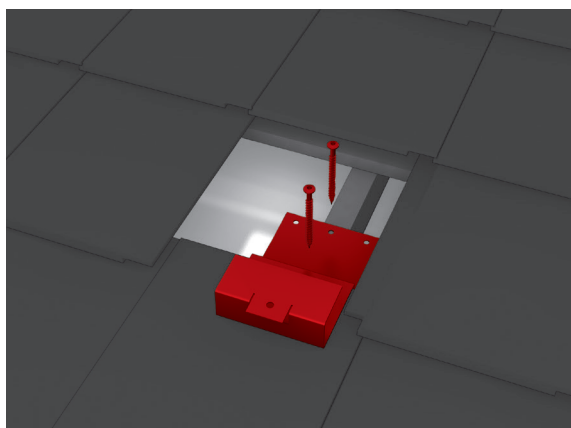
Assembly

1 Uncover rafters (remove tiles)



The rafters, on which the roof fasteners are to be mounted, must be exposed. The height of the roof fastener must be checked and adjusted if necessary.

2 Assemble roof fastener



The roof fastener must be mounted with a minimum of two stainless steel timber screws on the wooden rafters (at least one screw per row of holes). The large surface of the roof fastener must be placed flush on the surface of the underlying large interlocking plain tiles. The roof fastener may not be mounted over a lateral overlapping of the concrete tiles.

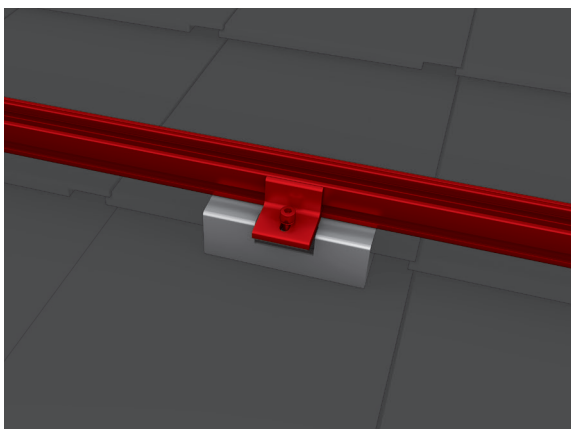
All roof fasteners must be positioned at the same height. The amount of roof fasteners that need to be mounted will be specified when the order is placed or can be determined with the K2 Base calculation tool! Once the roof fastener has been mounted clean the large surface of the fastener and fix the upper concrete tile back to its original position. Make sure that the upper concrete tile lies flat on the roof fastener.

National building regulations and roofing guidelines must be adhered to! Tightness of the roof must be ensured!

Note: The tightness of the roof can be improved by installing suitable sealing strips at the side of the roof fastener.

Required materials: K2 CrossHook2, timber screw

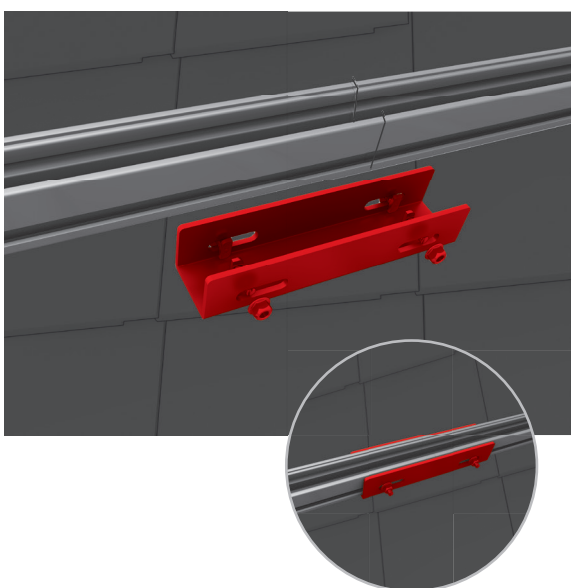
3 Mounting Rail assembly



The Mounting Rail is mounted on to the roof fastener using K2 Climbers and K2 Bolts with serrated under head. Tightening torque 16 Nm.

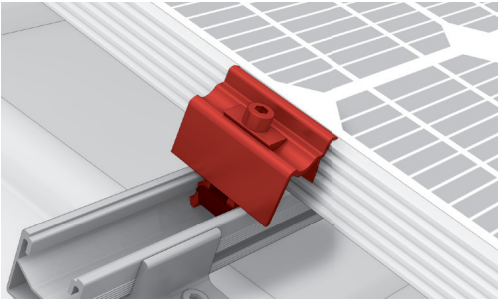
Due to thermal expansion, the rows must be max. 17.6 m. The minimum spacing for separation between the two K2 rails is 3 - 5 cm.

4 Rail connector assembly



Lay Mounting Rail on joint with rail connector and connect with T bolts and self-locking nuts. The rail joint may not be in the range of the roof fastener. Tightening torque 16 Nm.

5 Attach module gaps



Fix the module in place at the end of a row with universal module end clamp OneEnd. Klick the Stance in the notches. Alternatively use the standard end clamp. Insert the MK2 nut into the mounting rail and turn clockwise by 90 °. Place clamps on the module frames and fix them. Never mount module end clamps directly on the rail joint or end of the rail! (Spacing: min. 50 mm from module end clamp). Pay attention to the mounting instructions by module manufacturer!

Tightening torque 14 Nm.

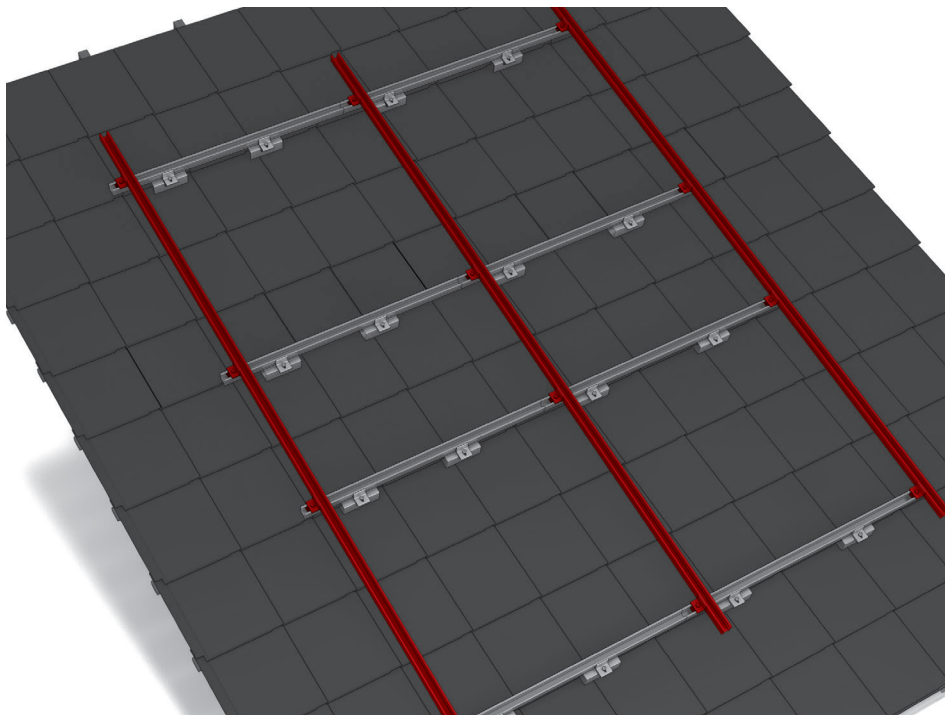


Use two universal module middle clamp OneMid between two modules. Klick the Stance in the notches. Place clamps on the module frames and fix them. Tightening torque 14 Nm.



Alternatively: Use two XS middle clamps between two modules

Alternative system designs (cross bracing) with CrossRail / SingleRail

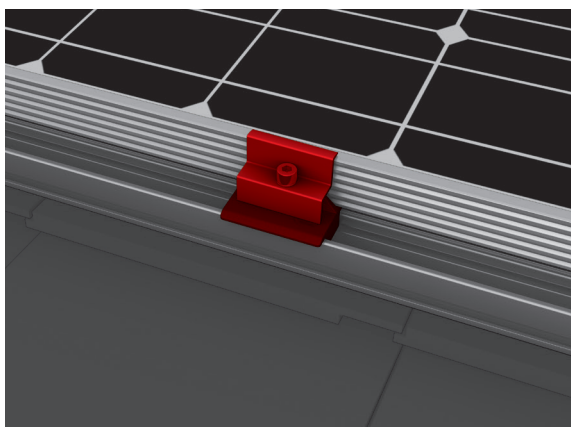


In cross bracing, the upper rail position is fitted using the

M K2 slot nut, climber and bolt with serrated under head M8 to the desired location, with appropriate spacing.

Tightening torque 16 Nm.

Alternative system designs CrossRail with AddOn assembly



For the horizontal grid assembly of modules using the K2 AddOn, cross bracing is required. The assembly of the module is performed with the K2 AddOn and the M K2 slot nut as well as an end and middle clamp and an M8 hexagon socket head cap screw.

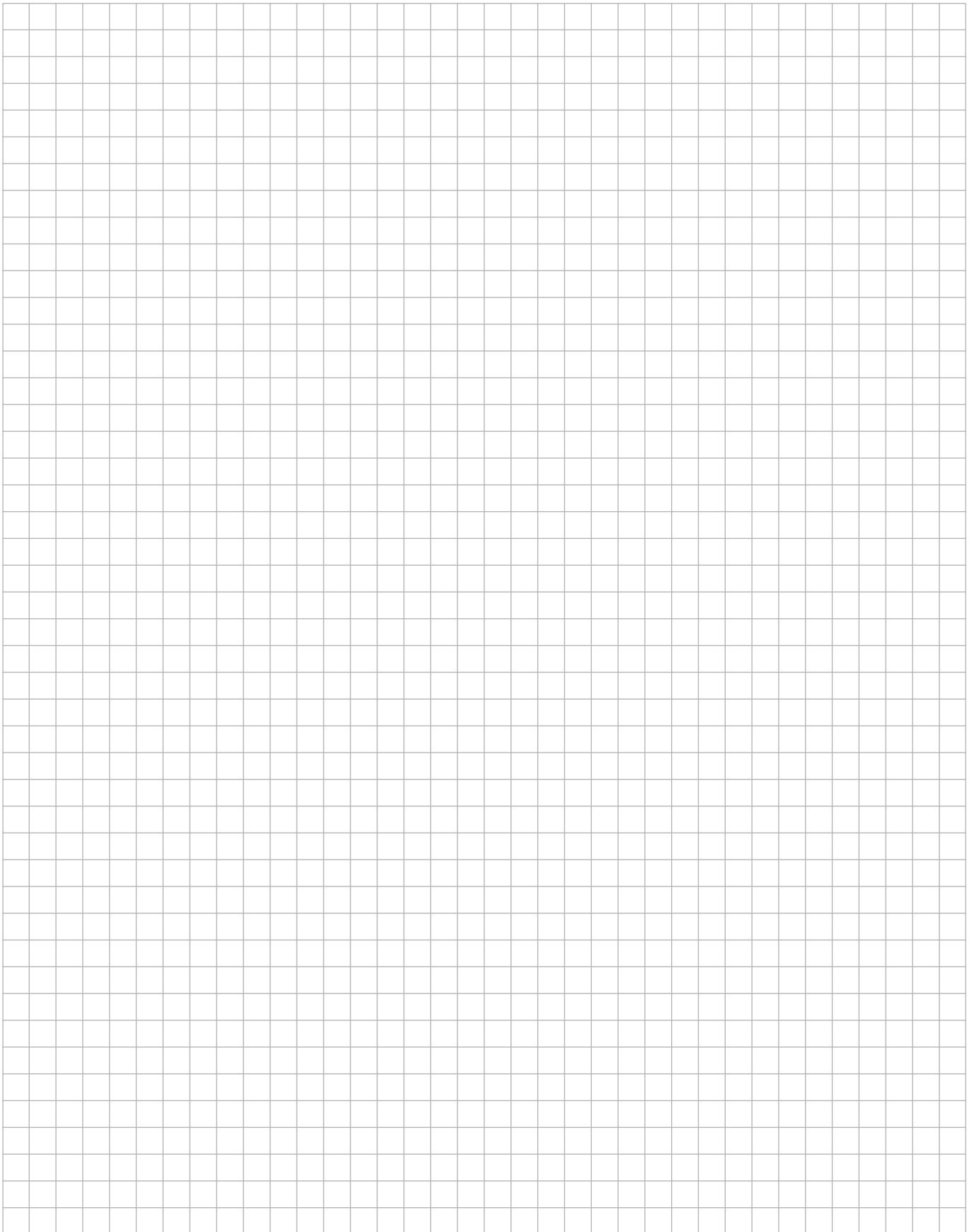
Correct measurement of the roof and accurate working are essential requirements for this type of assembly.

Attention:

The K2 AddOn assembly instructions must be strictly observed.

Notes





THANK YOU FOR CHOOSING A K2 MOUNTING SYSTEM.

Systems from K2 Systems are quick and easy to install. We hope these instructions have helped. Please contact us with any questions or suggestions for improvement.

Our contact data:

- ▶ www.k2-systems.com/en/contact
- ▶ **Service Hotline: +49 (0)7159 42059-0**

German law shall apply excluding the UN Convention on CISG.
Place of venue is Stuttgart.

Our General Terms of Business apply. Please refer:
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