

SAFETYPRO GUARDRAIL

COLLECTIVE PROTECTION SYSTEMS



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INTRODUCTION



Product description

SafetyPro GuardRail is a load-bearing aluminium safety railing system for collective fall protection on flat roofs, which can be installed without penetrating the waterproofing, and is certified to EN ISO 14122-3 and EN 13374 standards. It is ideal for securing roof gardens, escape and service routes. Using ballast to anchor the system means that no damage is caused to the roof structure or the parapet. It is quick and easy to install.

Legal requirements

Anyone working at great heights must be secured against accidental falls. This is the responsibility of the employer and/or the owner of the building. In the planning of the building, the architect also has a responsibility to comply with the relevant regulations and, if necessary, to include a fall protection system. SafetyPro GuardRail complies with the latest EU standards.

Advantages

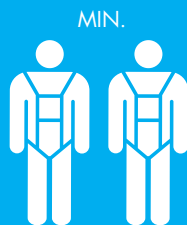
- The elements of the SafetyPro GuardRail range are easy to assemble and disassemble, and are easy to transport and move
- The system can be easily rebuilt after installation
- The systems are discreet and attractive. The SafetyPro GuardRail - Tech-25 version is barely visible from outside the building, while the FlexTech version is not visible at all when folded down
- Additional parts (e.g. gate, wall connector, corner element, toe board) can be added to meet specific requirements
- Due to its design, there is no thermal bridge between the building structure and the railing system
- The system has few components and, with the right expertise, installation is quick and easy
- Since the SafetyPro GuardRail railing system is not fixed to the structure of the roof, the waterproofing remains intact
- The SafetyPro GuardRail railing systems can be installed on warm-roof and inverted roof layer structures, on any structural material (concrete, steel, wood, etc.) and on any waterproofing materials (bitumen, PVC, EPDM, etc.)
- The SafetyPro GuardRail handrails can be powder-coated to any shade to suit the owner's requirements
- The railing system is suitable for use in four seasons

Assembly

SafetyPro GuardRail

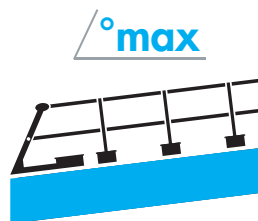
The most significant advantage of the SafetyPro rail system is the speed and simplicity of its assembly. Due to the low weight of the components, no special equipment is required to install the system on site.

For quick and effective installation, assistance can be found in the installation instructions included with the systems supplied.



Inclination

The SafetyPro rail can be mounted on roofs with an angle of inclination parallel to the longitudinal axis of the handrail of maximum 15° (EN ISO 14122-3) or 10° (EN 13374).



Counterweight

The stability of the SafetyPro rail systems is ensured by two 12.5 kg counterweights per base element.



System documentation

The SafetyPro system documentation is the normative when installing the system.

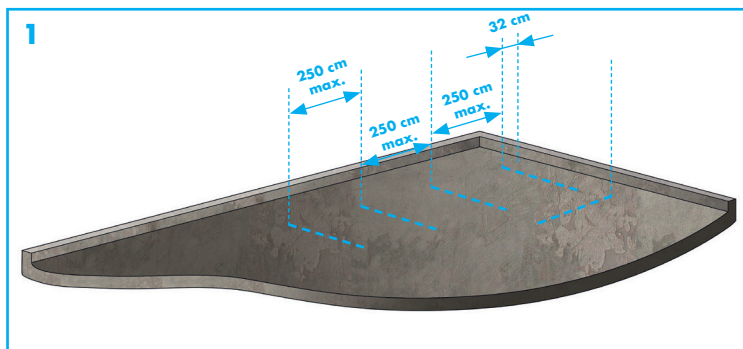


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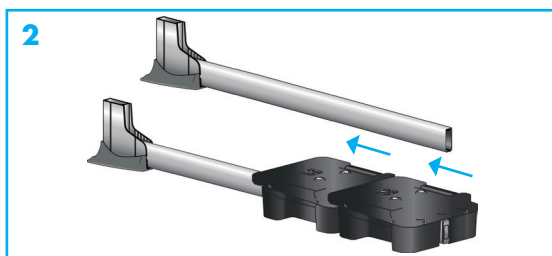
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Assembly SafetyPro GuardRail

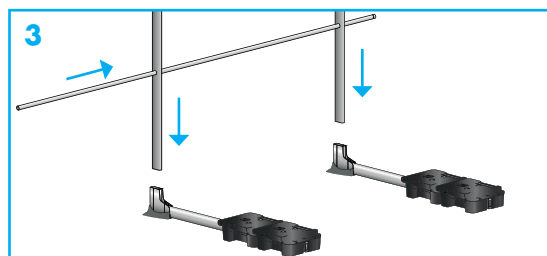
Assembly order



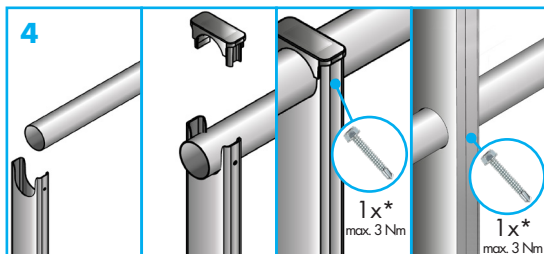
Mark the position of the base elements according to the assembly plan.
Clear away all loose material and debris to ensure the stability of the system.
Place the base elements in the marked positions.



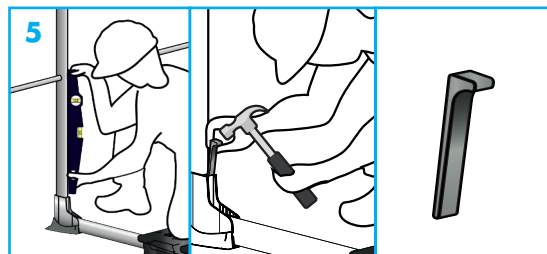
Place the counterweights on the base elements in the correct position so that they are securely level with the base elements.



Insert the railing posts into the prepared base elements and push the kneerails into the slots in the posts, section by section.



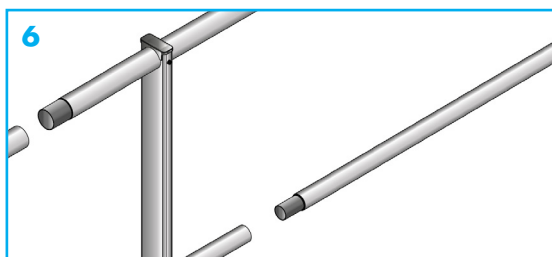
Place the handrail onto each post, put on the fixing cap and fix it in place with a self drilling screw (*A2 4.8 x 25 mm).
Fix the kneerail to each post in the same way, with a self drilling screw.



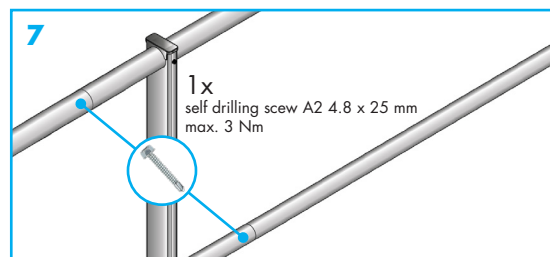
Check carefully that the assembled system is aligned vertically. Insert the blocking wedges between the railing post and the base element using a hammer to secure the post to the base element.

Assembly

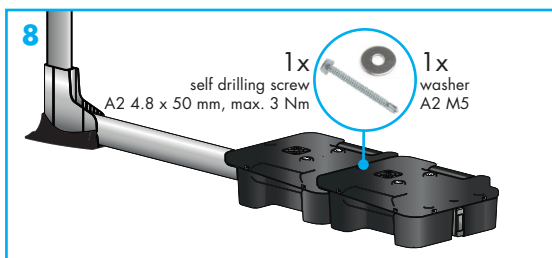
SafetyPro GuardRail



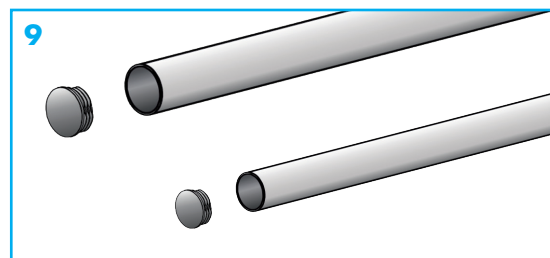
Connect the hand- and kneerail sections together. Make sure that these connections are staggered.



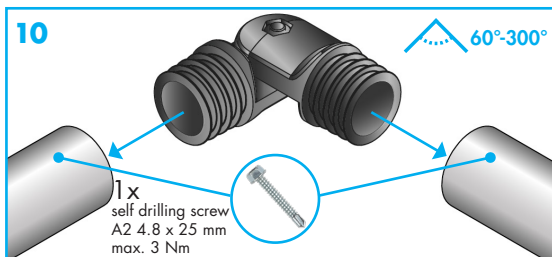
Secure each piece of railing to the next with the self drilling screw (4.8 x 25 mm).



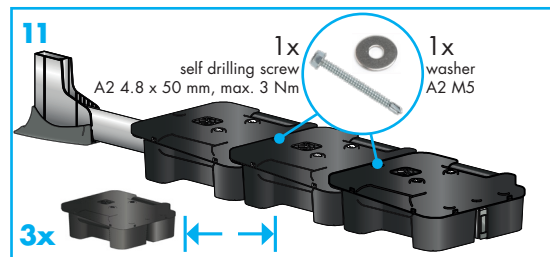
After assembling the complete railing system, fix the counterweight to the base element with the self drilling screws (4.8 x 50 mm).



If there are no wall connections, attach the plastic plugs to the ends of the hand- and kneerails.



For the corners, attach the plastic corner elements to the ends of the handrails and kneerails. These must be fixed with two stainless steel self drilling screws (4.8 x 25 mm). You can set the desired angle individually and fix it with the integrated screw within the corner element.



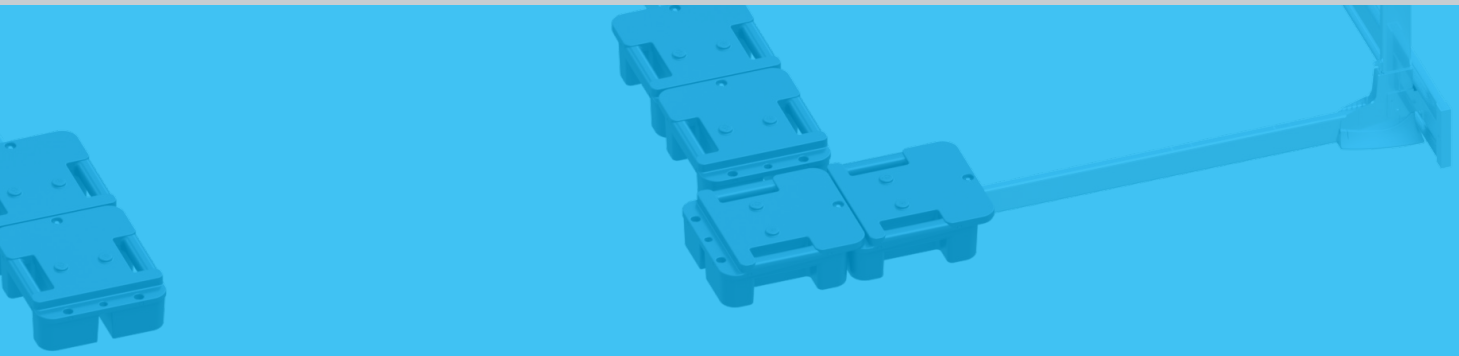
At each free-standing starting or end point, three counterweights must be mounted on the base element.

TECHNICAL DATA

SafetyPro GuardRail	Tech-90 (EN 13374)	Tech-90 (EN ISO 14122-3)	Tech-25 (EN ISO 14122-3)	FlexTech (EN ISO 14122-3)
System height	110 cm	118 cm		110 cm
Toe board	Obligatory if the parapet is lower than 15 cm		Obligatory if the parapet is lower than 10 cm	
Max. distance between posts	250 cm	150 cm		140 cm (1 Segment = max. 12 m)
Weight	12-14 kg / fm		19 - 21 kg / fm	
Max. inclination	10°		15°	
Counterweight		2 x 12.5 kg / Base element		
Material		Aluminium		

All dimensions are nominal

COLLECTIVE PROTECTION SYSTEMS



SafetyPro GuardRail - Tech-90

SafetyPro GuardRail - Tech-90 is the standard version of the railing system family, where the posts form a 90° angle to the base elements. This version enables safe access to the entire roof surface.



SafetyPro GuardRail - Tech-25

The SafetyPro GuardRail - Tech-25 differs from Tech-90 in that its columns are tilted at 25° to the vertical plane, which has several advantages. First, ergonomic - the hand rail is closer to the user, making it more comfortable to use. Secondly, aesthetic - the guardrail system is less visible from the outside of the building, thus better meeting certain architectural requirements.

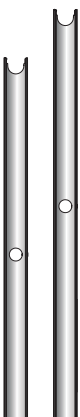
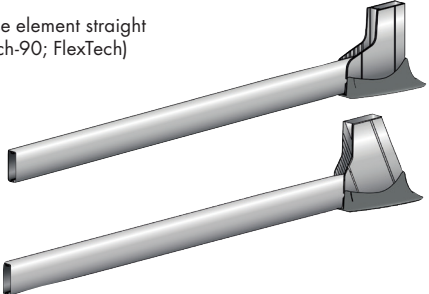
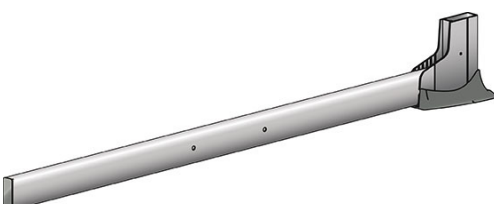
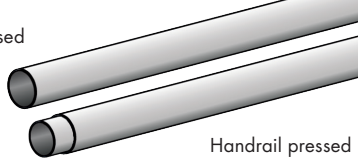
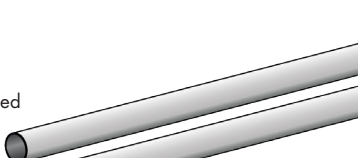
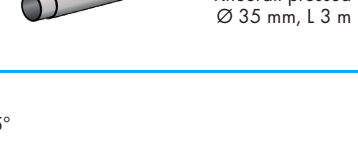
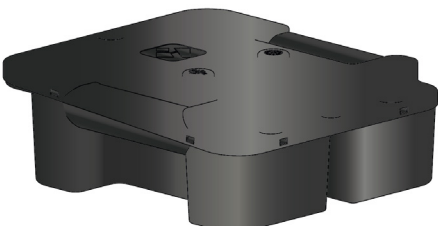
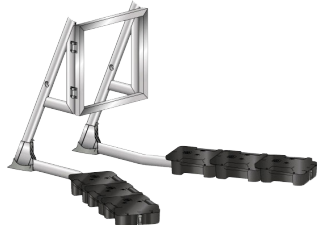


SafetyPro GuardRail - FlexTech

The special feature of the SafetyPro GuardRail - FlexTech is the fold-down posts, which allows the entire railing system to remain invisible and the appearance of the building is not affected as a result. During maintenance work, the FlexTech railing meets all the requirements of a collective protection system.

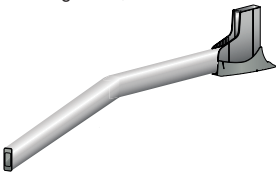
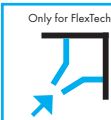
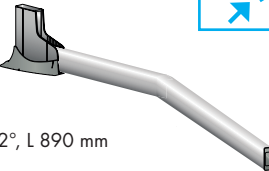
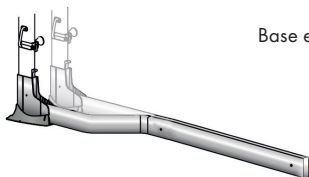
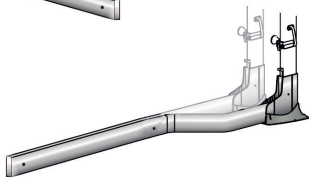
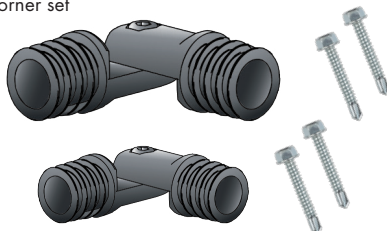
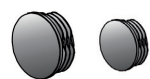
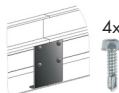
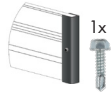
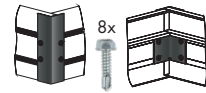


Components SafetyPro GuardRail

Railing post straight H 1105 mm (Tech-90 - EN 13374)  Railing post straight H 1182 mm (Tech-90 - EN ISO 14122-3) (Tech-25 - EN ISO 14122-3)  Railing post locking plug 	Base element straight (Tech-90; FlexTech)  Base element 25 straight  Blocking wedge 	Base element straight drilled (FlexTech)  Blocking wedge 
Railing post foldable H 1105 mm (FlexTech)  Railing post locking plug 	Handrail not pressed Ø 45 mm, L 3 m  Handrail pressed Ø 45 mm, L 3 m  Kneerail not pressed Ø 35 mm, L 3 m  Kneerail pressed Ø 35 mm, L 3 m 	Counterweight 12.5 kg 
Safety gate set 90° EN ISO 14122-3 	Safety gate set 25° 	Safety gate set 90° EN 13374 

Components

SafetyPro GuardRail

Base element to right 32°, L 890 mm  Only for FlexTech  Base element to left 32°, L 890 mm 	Base element to right 25°, L 1310 mm  Base element to left 25°, L 1310 mm 	Base element 25 to right 25°, L 1310 mm  Base element 25 to left 25°, L 1310 mm 
Base element Z-shape to right  Base element Z-shape to left 	Corner set  Plug set 	Wall connector set 
Toe board 3000 x 19 x 150 mm 		
Bracket for toe board H 150 mm  6x	Connector for toe board H 150 mm  4x	Toe board plug set  1x
Toe board corner set  8x		
Self drilling screw A2 4.8 x 16 mm 		
Self drilling screw A2 4.8 x 25 mm 		
Self drilling screw A2 4.8 x 50 mm 		
Hexagonal screw A2 M8 x 70 mm 		
Washer A2 M5 		
Plain washer A2 M8 		
Self-locking hexagon nut A2 M8 		

Art.NR.	Product name	Length mm	Width mm	Height mm	Weight kg
795116	SPGR Railing post straight H 1105 mm	1105	65	25	0,82
795114	SPGR Railing post straight H 1182 mm	1182	65	25	0,88
795117	SPGR Railing post foldable H=1105 mm	1105	65	25	1,14
795378	SPGR Base element straight	1320	130	160	1,25
795427	SPGR Base element 25 straight	1320	130	160	1,3
795379	SPGR Base straight drilled	1320	130	160	1,25
795380	SPGR Base element Z-shape to right	834	222	160	1,27
795381	SPGR Base element Z-shape to left	834	222	160	1,27
795421	SPGR Base element to right 25°, L 1310 mm	1310			1,35
795422	SPGR Base element to left 25°, L 1310 mm	1310			1,35
795423	SPGR Base element to right 25°, L 878 mm	878			1,27
795424	SPGR Base element to left 25°, L 878 mm	878			1,27
795512	SPGR Base element 25 to right 25°, L 1310 mm	1310			1,35
795513	SPGR Base element 25 to left 25°, L 1310 mm	1310			1,35
795425	SPGR Base element to right 32°, L 890 mm	890			1,27
795426	SPGR Base element to left 32°, L 890 mm	890			1,27
795514	SPGR Counterweight 12.5 kg	325	295	110	12,5
795131	SPGR Handrail pressed Ø 45 mm, L 3 m	3000			1,45
795138	SPGR Handrail not pressed Ø 45 mm, L 3 m	3000			1,45
795130	SPGR Kneerail pressed Ø 35 mm, L 3 m	3000			1,3
795132	SPGR Kneerail not pressed Ø 35 mm, L 3 m	3000			1,3
795072	SPGR Plug set	45	70	50	0,045
795073	SPGR Corner set	168	66	47	0,296
795084	SPGR Wall connector set	110	70	100	0,508
795070	SPGR Safety gate set 90° EN ISO 14122-3		600		57,3
794996	SPGR Safety gate set 90° EN13374				57
795071	SPGR Safety gate set 25°				57,7
795502	SPGR Toe board 3000 x 19 x 150 mm	3000	19	150	2,74
795503	SPGR Bracket for toe board H 150 mm				0,08
795504	SPGR Connector for toe board H 150 mm				0,06
795085	SPGR Toe board corner set				0,082
795112	SPGR Toe board plug set				0,136
795515	SPGR Blocking wedge				0,01
795506	SPGR Self drilling screw A2 4.8 x 25 mm				0,004
795507	SPGR Self drilling screw A2 4.8 x 50 mm				0,006
795511	SPGR Washer A2 M5	18	18	2	0,003
795508	SPGR Hexagonal screw A2 M8 x 70 mm				0,028
795510	SPGR Plain washer A2 M8				0,01
795509	SPGR Self locking hexagon nut A2 M8				0,006
795505	SPGR Self drilling screw A2 4.8 x 16 mm		68	28	0,002
795516	SPGR Railing post locking plug				0,03

PLANNING AND SPECIFICATION

Planning

The required materials and the installation plan for the GuardRail systems are supplied by the KNAUF INSULATION, d.o.o. planning team. During planning, the usage requirements, characteristics of the building and local conditions must be taken into account. If the implemented railing system differs from the design plan, the alterations must be authorised by the planning team and documented at every stage.

Requirement for planning

1. Roof plan view with indication of the railing installation line
2. Facade and section drawings with height measures (in dwg format for faster planning - pdf, if dwg is not available)
3. Inclination of the roof [the SafetyPro Guardrail system can be installed on a roof of 10 / 15° (EN 13374 / EN ISO 14122-3)]
4. Placement of superstructures or elements to be installed later (solar panels, air conditioners' outdoor unit etc.)
5. Skylight protection

Specification

SafetyPro GuardRail - Tech-90

Self-supporting safety railing system without penetration of the roof cladding made of aluminium as a collective protection system on flat roofs, certified according to EN 13374 and EN ISO 14122-3, (EN 13374: H=110 cm, EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self drilling screws. Installation according to the manufacturer's instructions, and based on the installation guide and the construction plan. Accessories: Closing Cap Set, Corner Set, Wall Connection Set, Safety Gate Set, Toe Board, Toe Board Corner Set, Toe Board End Set (Toe board is obligatory if the parapet is lower than 15 cm according to EN 13374 or 10 cm according to EN ISO 14122-3).

SafetyPro GuardRail - Tech-25

Self-supporting safety railing system without penetration of the roof cladding made of aluminium as a collective protection system on flat roofs, certified according to EN ISO 14122-3, (EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self drilling screws. Installation according to the manufacturer's instructions, and based on the installation guide and the construction plan. Accessories: Closing Cap Set, Corner Set, Wall Connection Set, Safety Gate Set, Toe Board, Toe Board Corner Set, Toe Board End Set (Toe Board is obligatory if the parapet is lower than 10 cm according to EN ISO 14122-3).

SafetyPro GuardRail - FlexTech

Self-supporting safety railing system without penetration of the roof cladding made of aluminium as a collective protection system on flat roofs, certified according to EN ISO 14122-3, (EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self-drilling screws. Installation according to the manufacturer's instructions, according to the installation instructions and the construction plan. Accessories: Closing Cap Set, Corner Set, Wall Connection Set, Safety Gate Set, Toe Board, Toe Board Corner Set, Toe Board End Set (Toe Board is obligatory if the parapet is lower than 10 cm according to EN ISO 14122-3).

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COMPANY PROFILE

Knauf Insulation is one of the most respected names in the insulation industry worldwide with 30 years of experience and is still growing fast, with over 5,000 employees in more than 35 countries and more than 40 manufacturing sites. Being part of the family-owned Knauf Group, Knauf Insulation Technical Solutions provides solutions for customers' requirements in industry, marine applications, heating, ventilation and air conditioning. A profound market understanding and insulation know-how enable us to provide a broad range of products to meet your specific needs.

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