FASTENING SYSTEMS

- Corrugated steel deck enclosure fastening systems
- Roofing fastening systems
- Roof drainage and vent systems
- Facade fastening systems
- Technical insulation fastening systems & wall tights
- Foundation drainage & dampproofing fastening systems
Company:
On the Russian and CIS states construction markets Termoclip company provides a wide range of products, complex professional solutions for the mechanical fastening system insulation, waterproof insulation, façade, fire-resistant materials. Termoclip develops and manufactures invariably hi-tech, safety and long-life anchoring elements in building cladding structure, unique drainage systems and roof ventilation.

Products:
• Fasteners for buildings and structures
• Drainage systems and roof ventilation

Key benefits:
• High tech
• Reliable and durable
• Unique and patented
• Insured warranty

Vision:
Innovative solutions in the technological process at own production — EXCELLENT PHYSICAL AND MECHANICAL PROPERTIES and always High Quality of our products

Values:
• Employees, partners and customers
• Innovation, craftsmanship and quality
• Stability, efficiency, reliability

Complete production cycle:
• Laboratory
• Raw warehouse
• Plastic molding plant
• Stamping plant
• Cold forming plant
• Repairing shop
• Packing area
• Warehouse

Key Advantages:
• Russian manufacturing company has complete production cycle
• Total quality control using the own company laboratory
• Wide range of manufacturing products make it possible to fix all types of insulation with different types of base material
• High strength technical characteristics provides using less fixing consequently saving costs
• Providing long on performance according with mechanical and environmental conditions Russia-wide
• Reduce Work due to ease montage and no waste during it
• Technical assistance and consulting throughout construction
• Insurance liabilities and warranty

PROVIDING INNOVATIVE SOLUTIONS IN FASTENING SYSTEMS FOR THE CONSTRUCTION SECTOR

www.termoclip.com
<table>
<thead>
<tr>
<th>Fastening Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDS 3 G16</td>
</tr>
<tr>
<td>CDS 5 G16</td>
</tr>
<tr>
<td>BFS 4.8 G14</td>
</tr>
<tr>
<td>CHT 3 G19</td>
</tr>
<tr>
<td>CHT 5 G19</td>
</tr>
<tr>
<td>CS FT 6.3</td>
</tr>
<tr>
<td>CFC H 6.3</td>
</tr>
<tr>
<td>EDS-B 5.5</td>
</tr>
<tr>
<td>WDHS-B 5.5</td>
</tr>
<tr>
<td>HC</td>
</tr>
<tr>
<td>A/A2</td>
</tr>
<tr>
<td>A/A2 D11</td>
</tr>
<tr>
<td>A2/A2</td>
</tr>
<tr>
<td>A2/A2 D11</td>
</tr>
<tr>
<td>A/US</td>
</tr>
<tr>
<td>US/US</td>
</tr>
</tbody>
</table>

**CORRUGATED STEEL DECK ENCLOSURE FASTENING SYSTEMS**
**CDS 3 G16**

Self-drilling, thread-cutting screw with a washer (EPDM)

**Material:**
Produced in accordance with the German DIN 7504-K standard, made of C 1022 carbon steel with durable corrosion-resistant coating and completed with a steel washer with a grey or black vulcanized gasket (EPDM).

**Use:**
Used for attaching corrugated sheets to steel structures up to 5 mm thick.

**Sizes:**
- M2, M2.5, M3

---

**CDS 5 G16**

Self-drilling, thread-cutting screw with a washer (EPDM)

**Material:**
Produced in accordance with the German DIN 7504-K standard, made of C 1022 carbon steel with durable corrosion-resistant coating and completed with a steel washer with a grey or black vulcanized gasket (EPDM).

**Use:**
Used for attaching corrugated sheets to steel structures up to 14 mm thick.

**Sizes:**
- M3, M4, M5

---

**CHT 5 G19**

Self-drilling, thread-cutting screw with a washer (EPDM)

**Material:**
Produced in accordance with the German DIN 7504-K standard, made of C 1022 carbon steel with durable corrosion-resistant coating and is completed with a steel washer with a grey vulcanized pad.

**Use:**
Used for fastening sandwich panels to steel structures up to 14 mm thick.

**Sizes:**
- M5, M6, M7

---

**CS FT 6,3**

Screw for fastening into concrete or brick foundation

**Material:**
Made of C 1022 carbon steel with durable corrosion-resistant coating.

**Use:**
Used for fastening into concrete or brick foundation.

**Sizes:**
- M6, M8

---

**BFS 4.8 G14**

Self-drilling, thread-cutting screw with conical reduced-size drill and washer (EPDM)

**Material:**
Produced in accordance with the German DIN 7504-K standard, made of C 1022 carbon steel with durable corrosion-resistant coating and completed with a steel washer with a grey vulcanized gasket (EPDM).

**Use:**
Used for linking corrugated metal sheets.

**Sizes:**
- M4, M5, M6

---

**CHT 3 G19**

Self-drilling, thread-cutting screw with a washer (EPDM)

**Material:**
Produced in accordance with the German DIN 7504-K standard, made of C 1022 carbon steel with durable corrosion-resistant coating and completed with a steel washer with a grey vulcanized gasket (EPDM).

**Use:**
Used for linking corrugated metal sheets.

**Sizes:**
- M3

---

**CFC H 6,3**

Screw for fastening sandwich panels into concrete or brick foundation

**Material:**
Produced in accordance with the German DIN 7504-K standard, has a durable corrosion-resistant coating Dacromet, tested in Kesternich chamber (sulfur dioxide (SO2) testing) in accordance with DIN 50018 standard. When necessary can be completed with a steel/rust-proof washer Ø19 mm with a grey vulcanized pad EPDM.

**Use:**
Fastening sandwich panels into concrete or brick foundation.

**Sizes:**
- M6, M8

---

**HC**

Hexagon plastic caps

**Use:**
To increase working life of fastening elements made of carbon steel, as well as for esthetic purposes, such elements can be completed with plastic caps which protect them from external hydrothermal attacks, as well as UV rays.

**Sizes:**
- M3, M4, M5
**WDHS-B 5,5**

Self-drilling, thread-cutting screw with two blades for drilling holes in wood

**Material:**
Made of C 1022 hardened carbon steel, has durable electroplated corrosion-resistant coating.

**Use:**
Fastening unit has a TORX T30W flat head and two blades for drilling holes in wood which allows drilling and thread-cutting in one operation both in wooden and metal foundation in order to fasten them.

\( \theta \) 4.8, 5.0

---

**EDS-B 5,5**

Self-drilling, thread-cutting screw

**Material:**
Made of C 1022 carbon steel with durable corrosion-resistant coating Dacromet tested in Kesternich chamber (sulfur dioxide (SO2) testing) in accordance with DIN 50018 standard. Has high pull-out strength if fastened into a thin steel sheet 0.55 mm thick.

**Use:**
Used for completing disk-shaped or elongated pressure units to fasten into steel or wooden foundation.

\( \theta \) 25, 35, 45

---

**A2/A2**

Corrosion-resistant steel rivets with a standard rib

**Material:**
The rivet sleeve and the shank are made of corrosion-resistant steel.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 3.0, 4.0, 4.8

---

**A2/A2 D11**

Corrosion-resistant steel rivets with an enlarged rib

**Material:**
The rivet sleeve and the shank are made of corrosion-resistant steel.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 5.0

---

**A/A2**

A breakstem rivet with an open end, a coming-off mandrel

**Material:**
The rivet sleeve is made of the aluminum alloy with magnesium content of 3.5% and the shank is made of anti-corrosive steel.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 4.8, 5.0

---

**A/A2 D11**

A breakstem rivet with an open end, a coming-off mandrel and an enlarged rib

**Material:**
The rivet sleeve is made of the aluminum alloy with magnesium content of 3.5% and the shank is made of anti-corrosive steel.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 3.0

---

**A/US**

A breakstem rivet with an open end, a coming-off mandrel

**Material:**
The rivet sleeve is made of the aluminum alloy with magnesium content of 3.5% and the shank is made of carbon steel with the anti-corrosive resistant coating.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 3.0, 4.0, 4.8

---

**US/US**

A breakstem rivet with an open end, a coming-off mandrel

**Material:**
The rivet sleeve and the shank are made of carbon steel with the anti-corrosive resistant coating.

**Use:**
It is used for ventilated facade subsystem fastening.

\( \theta \) 4.8
Facade Fastening Systems

ISOL MS WALL
1MH WALL
1MS WALL
1MT WALL
2MH WALL
2MT WALL
2PH WALL
WST 5,5
3 WALL
R WALL
5 WALL
V2 GEO WALL
V2 ZN WALL
V2E WALL
AIR CHUTE
MGS 1
MGS 1E
FIXING TIE
MGS 2 MT
AG MT
MGS 3 MS
AG MS
MGS 4 MS
MGS 5 MS
A polymer disk-shaped dowel with a special heat insulation and waterproof cap with a thread expansion element (Torx)

**Material:** Termoclip-ISOL MS-wall disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. ISOL MS expansion element is made of carbon steel with the anti-corrosive resistant coating.

**Use:** It is used for heat-insulating slab fastening to supporting base of external thermoinsulation facade systems, both with rendering (eq. ETICS), and with an air gap.

**Use:**
- 120, 140, 160, 180, 200, 220, 240, 260, 280

---

**1MH WALL**

A polymer disk-shaped dowel and a driven expansion element with a high performance heat insulating head

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. MH expansion element is made of carbon steel with the anti-corrosive resistant coating and protected by the heat-insulating head made of the impact-resistant glass-nylon composite.

**Use:** It is used for heat-insulating slab fastening to supporting base of external thermoinsulation facade systems with rendering (eq. ETICS), and with an air gap.

**Use:**
- 120, 140, 160, 180, 200, 220, 240, 260, 280, 300

---

**2MH WALL**

A polymer disk-shaped dowel with depth limitation edges and a driven metal expansion element with a heat insulating head

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. MH expansion element is made of carbon steel with the anti-corrosive resistant coating and protected by the impact-resistant nylon plastic heat-insulating head.

**Use:** It is used for heat-insulating slab fastening to supporting base of external thermoinsulation facade systems with an air gap. It is the best for low-density heat-insulating slab fastening. Special edges enable the depth limitation of installation, prevent heat-insulating slab deformation that leads to heat transfer performance uniformity conservation in the wall plane.

**Use:**
- 95, 115, 125, 135, 145, 155, 165, 175, 195, 215, 225

---

**2PH WALL**

A polymer disk-shaped dowel with depth limitation edges and a driven nylon (polyamide) expansion element

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. PH expansion element is made of the impact-resistant glass-nylon composite.

**Use:** It is used for heat-insulating slab fastening to supporting base of external heat insulation facade systems with an air gap. It is the best for low-density heat-insulating slab fastening. Special edges enable the depth limitation of installation, prevent heat-insulating slab deformation that leads to heat transfer performance uniformity conservation in the wall plane.

**Use:**
- 95, 115, 125, 135, 145, 155, 165, 175, 195, 215, 225

---

**1MS WALL**

A polymer disk-shaped dowel with a thread expansion element and a heat insulating head (Torx)

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. IMS expansion element is made of carbon steel with the anti-corrosive resistant coating.

**Use:** Used for heat-insulating slab fastening to supporting base of external thermoinsulation facade systems with rendering (eq. ETICS), and with an air gap.

**Use:**
- 120, 140, 160, 180, 200, 220, 240, 260, 280

---

**1MT WALL**

A polymer disk-shaped dowel and a carbon steel driven expansion element with fine knurling and a heat insulating head

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. MS expansion element is made of carbon steel with the anti-corrosive resistant coating and protected by the impact-resistant nylon plastic heat-insulating head.

**Use:** It is used for heat-insulating slab fastening to supporting base of external thermoinsulation facade systems, with rendering (eq. ETICS), and with an air gap.

**Use:**
- 120, 140, 160, 180, 200, 220, 240, 260, 280, 300

---

**2MT WALL**

A polymer disk-shaped dowel with depth limitation edges and a driven metal expansion element with fine knurling and a heat insulating head

**Material:** The disk-shaped dowel is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties. MT expansion element is made of carbon steel with the anti-corrosive resistant coating and protected by the impact-resistant nylon plastic heat-insulating head.

**Use:** It is used for heat-insulating slab fastening to supporting base of external heat insulation facade systems with an air gap. It is the best for low-density heat-insulating slab fastening. Special edges enable the depth limitation of installation, prevent heat-insulating slab deformation that leads to heat transfer performance uniformity conservation in the wall plane.

**Use:**
- 95, 115, 125, 135, 145, 155, 165, 175, 195, 215, 225
3 WALL

A polymer disk-shaped element with a special heat-insulating and waterproof cap

Material: The disk-shaped element is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties.

Use: It is used for heat-insulating slab fastening to wood supporting base, strandboards and plywood by WST-5.5 drawn up expansion element.

5 WALL

A polymer screw dowel with a disk-shaped holder

Material: The screw dowel is made of high-quality polyethylene with high stress-strain properties.

Use: It is used for windproof and waterproof membrane fastening to heat insulation slabs for a ventilated facade. It is installed without pre-drilling.

R WALL

A polymer disk-shaped element with a special heat-insulating and waterproof cap

Material: The disk-shaped element is made of block copolymer based on high molecular weight polyethylene with high stress-strain properties.

Use: It is used for heat-insulating slab fastening to wood supporting base, strandboards and plywood by WST-5.5 drawn up expansion element.

WST 5.5

A thread forming screw (Torx)

Material: The expansion element is made of carbon steel with the anti-corrosive resistant coating.

Use: It is used for heat-insulating slab fastening to the wood supporting base, strandboards and plywood. It is used with 3-Wall disk-shaped element.

V2 GEO WALL

A high-strength front anchor for suspended facade bracket fastening with the anti-corrosive coating of GEOMET expansion element

Material: V2 Geo-wall dowel is made of high-quality nylon (polyamide) with high strength properties. V2 Geo expansion element is made of carbon steel with the anti-corrosive resistant coating.

Use: It is used for suspended facade bracket fastening to with a ventilated gap and other building units to the supporting base.

V2 ZN WALL

A high-strength front anchor for suspended facade bracket fastening

Material: V2-wall dowel is made of high-quality nylon (polyamide) with high strength properties. V2 expansion element is made of carbon steel with the zinc anti-corrosive resistant coating.

Use: It is used for suspended facade bracket fastening to with a ventilated gap and other building units to the supporting base.

V2E WALL

A high-strength front anchor for suspended facade bracket fastening with an stainless steel expansion element

Material: V2E-Wall dowel is made of high-quality nylon (polyamide) with high strength properties. V2E expansion element is made of stainless steel.

Use: It is used for suspended facade bracket fastening to with a ventilated gap and other building units to the supporting base.

AIR CHUTE

A polymer air chute with an air labyrinth for the brick face facade

Material: TERMOCILIP air chute is made of high-quality polyethylene.

Use: It is used for installation in vertical (cross) masonry joints. It provides ventilation and removes condensing humidity from the air gap between the facing and supporting structures of the brick face facade.
**MGS 1**

A metal fixing tie in masonry joints

**Material:**
MGS 1 tie is made of carbon steel with the anti-corrosive resistant coating.

**Use:**
It is used for fixing in masonry joints.

| T | 200, 225, 250, 275, 315, 340 |

**FIXING TIE**

**MGS 1E**

A metal fixing tie in masonry joints

**Material:**
MGS 1E tie is made of corrosion-resistant steel.

**Use:**
It is used for fixing in masonry joints.

| T | 200, 225, 250, 275, 315, 340 |

**MGS 3**

A metal tie with a polymer screw dowel with AG MS

**Material:**
MGS 3 ties are made of corrosion-resistant steel. The dowel for ties is made of high-quality polyamide with high strength properties.

**Use:**
It is used for fixing in hollow tiles and supporting bases made of cellular concrete.

| T | 160, 200, 225, 250, 300 |

**AG MS**

A metal tie with a polymer screw dowel

**Material:**
MGS 3 ties are made of corrosion-resistant steel. The dowel for ties is made of high-quality polyamide with high strength properties.

**Use:**
It is used for fixing in hollow tiles and supporting bases made of cellular concrete.

| T | 160, 200, 225, 250, 300 |

**MGS 2 MT**

Metal ties with polyamide dowel AG MT

**Material:**
MGS 2 tie is made of corrosion-resistant steel. Dowel for ties is made of high-quality polyamide with high strength properties.

**Use:**
It is used for fixing in concrete, brick and other supporting bases.

| T | 160, 180, 210, 250, 275, 300, 320 |

**AG MT**

Metal ties with polyamide dowel AG MT

**Material:**
MGS 2 tie is made of corrosion-resistant steel. Dowel for ties is made of high-quality polyamide with high strength properties.

**Use:**
It is used for fixing in concrete, brick and other supporting bases.

| T | 160, 180, 210, 250, 275, 300, 320 |

**MGS 4 MS**

A metal fixing tie with thread forming screw

**Material:**
MGS 4 tie is made of corrosion-resistant steel.

**Use:**
It is used for fastening to the wood supporting base, strandboards and plywood.

| T | 100, 120, 140, 160, 180, 200, 220, 240, 260 |

**MGS 5**

Metal ties with polymer disk-shaped dowel

**Material:**
MGS 5 tie is made of corrosion-resistant steel. Disk-shaped dowel for ties is made of block copolymer based on high-molecular weight polyethylene with high stress-strain properties.

**Use:**
It is used for fixing in concrete, brick and other supporting bases.

| T | 100, 120, 140, 160, 180, 200, 220, 240, 260 |
## Fastening Systems

<table>
<thead>
<tr>
<th>Roofing System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOF PTE 1</td>
<td>STE 1/S</td>
</tr>
<tr>
<td>ROOF PTE 2</td>
<td>STE 2/S</td>
</tr>
<tr>
<td>ROOF PTE 3</td>
<td>STE 2/CV</td>
</tr>
<tr>
<td>ROOF PTE 4</td>
<td>STE 3/C</td>
</tr>
<tr>
<td>ROOF PTE 5</td>
<td>STE 4/C</td>
</tr>
<tr>
<td>ROOF R 19</td>
<td>STE 5/C</td>
</tr>
<tr>
<td>ROOF R 28</td>
<td>STE 6/C</td>
</tr>
<tr>
<td>CN 5</td>
<td></td>
</tr>
<tr>
<td>EDS-B 4.8</td>
<td></td>
</tr>
<tr>
<td>EDS-S 4.8</td>
<td></td>
</tr>
<tr>
<td>SMI 8</td>
<td></td>
</tr>
<tr>
<td>EDS-C 6.3</td>
<td></td>
</tr>
<tr>
<td>Holder Support Lightening</td>
<td></td>
</tr>
<tr>
<td>Leveling Ring</td>
<td></td>
</tr>
<tr>
<td>Roof Pavement</td>
<td></td>
</tr>
<tr>
<td>RA 1</td>
<td></td>
</tr>
<tr>
<td>RA 2</td>
<td></td>
</tr>
<tr>
<td>RS</td>
<td></td>
</tr>
<tr>
<td>RS 1</td>
<td></td>
</tr>
<tr>
<td>RS 2</td>
<td></td>
</tr>
<tr>
<td>Lightning Conductor Cable Holder</td>
<td></td>
</tr>
<tr>
<td>Support Blocks</td>
<td></td>
</tr>
</tbody>
</table>
**Polymeric disk-shaped element**

**Material:** Polymeric disk-shaped element PTE 1 is made of block copolymer based on high-endurance ethylene and propylene.

**Use:** Used for mechanical fixing of thermo and water insulants to the roof base made of corrugated metal sheet, concrete or wood.

**Mass:** 20, 50, 80, 100, 120, 130, 140, 150, 170, 180, 200, 220, 240

---

**Polymeric disk-shaped element with increased holder area**

**Material:** Polymeric disk-shaped element Termoclip-roof R 19 is made of high-strength glass-nylon composite.

**Use:** Used for applying a new layer of water and/or heat insulators to weak bases, also during repairs. Item type is chosen based on test results. R 19 is perfect for attaching thermal-insulation layers to each other and attaching light elements on thermal-insulation layer.

**Mass:** 20, 50, 80, 100, 120, 130, 140, 150, 170

---

**Polymeric disk-shaped element with studs on the holder’s lower surface**

**Material:** Polymeric disk-shaped element Termoclip-roof 2 is made of block copolymer based on high-endurance ethylene and propylene.

**Use:** Used for mechanical fixing of thermoinsulation layers to each other and attaching light elements on thermal-insulation layer.

**Mass:** 20, 50, 80, 100, 120, 130, 140, 150, 160, 200

---

**Polymeric disk-shaped element with oval holder and studs on the lower surface**

**Material:** Polymeric disk-shaped element Termoclip-roof 4 is made of block copolymer based on high-endurance ethylene and propylene.

**Use:** Used for mechanical fixing of thermo and water insulants to the roof base made of concrete. It is used with EDS-C 6.3.

**Mass:** 20, 50, 80, 100, 120, 140, 150, 180

---

**Polymeric disk-shaped screw dowel**

**Material:** Polymeric disk-shaped screw dowel Termoclip-roof R 28 is made of high-strength glass-nylon composite.

**Use:** R 28 is used for applying a new layer of water and/or heat insulants to weak bases, also during repairs. Item type is chosen based on test results.

**Mass:** 70, 90, 110, 130, 150, 170

---

**Polymeric disk-shaped element with oval holder**

**Material:** Polymeric disk-shaped element Termoclip-roof 3 is made of block copolymer based on high-endurance ethylene and propylene.

**Use:** Used for mechanical fixing of thermo and water insulants to the roof base made of corrugated metal sheet. It is used with EDS-C 6.3.

**Mass:** 20, 50, 80, 100, 120, 140, 150, 180
**Steel drop-in dowel for concrete**

**Material:** Dowel is made of carbon steel with durable corrosion-resistant coating.

**Use:** Designed for fixing disk-shaped dowels THERMOCLIP into concrete bearing foundation, concrete grade B25 or higher.

**EDS-B 4,8**

**Self-drilling thread-cutting self-locking screw for fixing into steel foundation**

**Material:** Screw is made of carbon steel with durable corrosion-resistant coating.

**Use:** Designed for fixing roof elements into steel base of 0,75-2,5 mm.

**EDS-C 6,3**

**Thread-cutting concrete screw (a part of polymeric disk-shaped element) for mechanical mounting into screwed, ribbed floor slabs and concrete**

**Material:** Screw is made of carbon steel with durable corrosion-resistant coating. High strength class (8.8) — surface hardening, soft core fasteners.

**Use:** Applied for mechanical mounting of head and water insulation materials to the bearing roof base made of concrete. Item type is chosen based on test results.

**EDS-S 4,8**

**Thread-cutting screw for mounting into steel base**

**Material:** Screw is made of carbon steel with durable corrosion-resistant coating.

**Use:** Designed for fixing roof elements into steel base of 0,75-2,5 mm.

**SMI 8,0**

**Polyamide dowel**

**Material:** Roof dowel SMI 8,0 is made of high-strength polyamide.

**Use:** Designed for mounting disk-shaped dowels THERMOCLIP, metal strips and roof components into concrete bearing base. It is used with EDS-S 4.

**HOLDER SUPPORT**

**Trapezoidal holder support**

**Material:** Support for a holder made of frost-resistant and light-stabilized polymer.

**Use:** Used for attaching corrugated sheets to load-bearing structures.

**LEVELING RING**

**Polymeric leveling ring**

**Material:** Supporting rings are made of polyethylene with high stress-strain properties.

**Use:** Leveling ring is applied on supporting pieces to level out irregularities of waterproof coating.

**ROOF PAVEMENT**

**PVC roof pavement to create walkways on the surface of membrane roof**

**Material:** UV- and wear-resistant. High relief ensures excellent anti-slip properties. Work surface of each part is 600x600 mm.

**Use:** PVC roof pavement is used to create walkways on the surface of membrane roof. There are special water draining grooves on the reverse side, so the walkway does not need to have breaks.
**RA 1**

**Metal strip with increased edge**

**Material:** Strip is made of aluminum-magnesium alloy specifically treated to ensure increased strength, plasticity and corrosion resistance.

**Use:** Used for fastening the edge of roof water insulation sheet to the parapet. Strip is reinforced with stiffening ribs to distribute the load in case of linear fastening along the membrane in the areas exposed to strong winds.

**Material:** Strip is made of aluminum-magnesium alloy specifically treated to ensure increased strength, plasticity and corrosion resistance.

**Use:** Used to fasten water insulant attachments to the bearing structure. Strip is reinforced with stiffening ribs to distribute the load in case of linear fastening of water insulation sheet along the parapet.

**RS 2**

**Steel pressure strip**

**Material:** Strip is made of carbon steel with durable corrosion-resistant coating.

**Use:** Used to press water insulant to the bearing structure at membrane joints.

**Steel pressure strip**

**Material:** Strip is made of aluminum-magnesium alloy specifically treated to ensure increased strength, plasticity and corrosion resistance.

**Use:** Used to press water insulant to the bearing structure at membrane joints.

**RS 1**

**Steel strip**

**Material:** Strip is made of carbon steel with durable corrosion-resistant coating.

**Use:** Used to press water insulant to the bearing structure at membrane joints.

**Lightening conductor cable holder**

**Material:** Polymeric holder is made of block copolymer based on high-endurance ethylene and propylene.

**Use:** Applied on the roofs for fixing direct lightning reception and electrical grounding cables.
STE 1/S

Steel disk-shaped element for mechanical fastening of rolled water insulation materials to bearing and enclosure structures made of corrugated metal sheet, concrete or wood.

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for mechanical fastening of rolled water insulation materials to bearing and enclosure structures made of corrugated metal sheet, concrete or wood. Has a special oval form with increased surface to distribute the load.

STE 2/S

Steel disk-shaped element for fastening rolled water insulation materials to bearing and enclosure structures made of metal sheet, concrete or wood.

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for mechanical fastening of rolled water insulation materials to bearing and enclosure structures made of metal sheet, concrete or wood. Has a special oval form with increased surface to distribute the load.

STE 4/C

Steel disk-shaped element for fastening translucent corrugated sheets to bearing structures, completed with a sealing washer (EPDM).

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for fastening translucent corrugated sheets to bearing structures.

STE 2/CV

Steel disk-shaped element for fastening rolled water insulation materials to bearing and enclosure structures made of metal sheet, concrete or wood.

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for mechanical fastening of rolled water insulation materials to bearing and enclosure structures made of corrugated metal sheet, concrete or wood. Has a special oval form with increased surface to distribute the load.

STE 3/C

Steel disk-shaped element for fastening rolled water insulation and rigid thermoinsulation materials to the roof base.

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for mechanical fastening of rolled water insulation materials to bearing and enclosure structures made of corrugated metal sheet, concrete or wood. Has a special oval form with increased surface to distribute the load, as well as a 15 mm seat for the screw head.

STE 5/C

Steel disk-shaped element for fastening translucent corrugated sheets to bearing structures, completed with a sealing washer (EPDM).

**Material:**
Disk-shaped element is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Used for fastening translucent corrugated sheets to bearing structures.

STE 6/C

Steel disk-shaped element for fastening translucent corrugated sheets to bearing structures, completed with a sealing washer (EPDM).

**Material:**
Carbon steel with durable corrosion-resistant coating.

**Use:**
Used for fastening corrugated steel sheets to bearing structures, completed with a sealing washer EPDM.
**Roof Funnel VB**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Roof funnel with leaf trap ensures unobstructed moisture removal from the roof covering, thus preventing accumulation of water on water insulation. Applicable together with water insulation materials based on modified bitumen.

**Dimensions:**
90x450, 110x160, 110x450

---

**Roof Funnel VF**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Roof funnel with leaf trap and crimp flange made of rust-proof steel, with vertical outlet, used for arranging water drainage from the roof surface. The funnel and roof covering are connected mechanically, which makes it applicable for all types of water insulation materials.

**Dimensions:**
90x450, 110x160, 110x450

---

**Roof Funnel VF-F**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Roof funnel with leaf trap and crimp flange made of rust-proof steel, with vertical outlet, used for arranging water drainage from the roof surface. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.

**Dimensions:**
90x450, 110x160, 110x450, 160x175, 160x450

---

**Roof Funnel VF0**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Roof funnel with crimp flange, completed with leaf trap and PVC apron.

**Dimensions:**
90x450, 110x165, 110x450, 160x175, 160x450

---

**Roof Funnel VF0-TD2**

**Use:**
VF0-type funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs. Drainage flange ensures collection of water from two levels. Used for ballasted, inversion and combined types of roofs.

**Dimensions:**
90x450, 110x165, 110x450, 160x175, 160x450

---

**Roof Funnel VF-TD2**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
VF funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs. Drainage flange ensures collection of water from two levels. Used for ballasted, inversion and combined types of roofs.

**Dimensions:**
90x450, 110x165, 110x450, 160x175, 160x450

---

**Roof Funnel VF-T0**

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
VF funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs.

**Dimensions:**
90x450, 110x165, 110x450, 160x175, 160x450

---

**Heated Roof Funnel VF0-TD2**

**Use:**
VFO-type funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.
Roof deflector for unrestricted removal of accumulated moisture from the roof void

- **Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.
- **Use:** Used for intensive removal of accumulated moisture from under the water insulation covering or roof void. Deflector helps prevent swelling, breakage and separation of the covering, which excludes total or partial loss of its performance properties. Also applicable for ventilation of the roof void.

Heated roof funnel with crimp flange, self-regulating electric heating secures operability of the water drainage during winter, autumn and spring, completed with a thrust ring

- **Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.
- **Use:** VFO funnels are completed with a gulley, which allows using them for maintenance or assembly of new accessible roofs. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.

Heated roof funnel with crimp flange, completed with leaf trap and PVC apron

- **Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.
- **Use:** Heated roof funnel with leaf trap and crimp flange made of rust-proof steel, with vertical outlet, used for arranging water drainage from the roof surface. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials. Additionally completed with PVC apron.

Put-on element with crimp flange and leaf trap

- **Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.
- **Use:** Used together with VF and VFO funnels in heat-insulated roofs with two-level vapor- and water insulation. Seal with locking prevents storm runoff from getting into thermal insulation layer in the place where put-on element connects with funnel. May also be used as an independent item like VF funnels.
**MAINTENANCE FUNNEL VFOR**

Heated roof maintenance funnel, to be assembled with steel, iron or plastic pipes Ø110 mm, completed with leaf trap and sealing cup

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.

**MAINTENANCE FUNNEL VFOR-F**

Heated roof maintenance funnel, completed with leaf trap and PVC apron

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.

**MAINTENANCE FUNNEL VFOR-TD2**

Heated roof maintenance funnel, to be assembled with steel, iron or plastic pipes Ø110 mm, completed with a sealing cup and a gulley with a D2 drainage flange

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. VFR-type funnels are completed with a gulley, which allows using them for maintenance or assembly of new accessible roofs. Electric heating secures operability of the water drainage during winter, autumn and spring. Applicable to all types of water insulation materials.

**MAINTENANCE FUNNEL VFOR-TO**

Heated roof maintenance funnel, to be assembled with steel, iron or plastic pipes Ø110 mm, completed with a gully and a thrust ring

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. VFR-type funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs.

**MAINTENANCE FUNNEL VFR**

Roof maintenance funnel with a leaf trap, crimp flange and sealing cup

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface.

**MAINTENANCE FUNNEL VFR-F**

Maintenance funnel, completed with leaf trap and PVC apron

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. Completed with leaf trap and PVC apron.

**MAINTENANCE FUNNEL VFR-T0**

Assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes, completed with a sealing cup and a gully with a thrust ring

**Material:**
Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:**
Used for assembly and maintenance of roofs that have drainage systems with steel, iron or plastic tubes. Washer material and configuration ensure tight sealing of the funnel with the draining tube despite residual impurity of the tube’s contact surface. VFR-type funnels are completed with a gully, which allows using them for maintenance or assembly of new accessible roofs.
**DRAINAGE FLANGE D1**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with a VF or VFO roof funnel and put-on element (NE) in inversion-type heat-insulating roofs for draining water from the lower layer of the roof.

**DRAINAGE FLANGE D2**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with the T gulley in balasterd roofs.

**THRUST RING O**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with the T gulley for fixing it in VF funnels or in put-on element.

---

**PUT-ON ELEMENT NE-M**

**Put-on element with crimp flange and seal with lockring**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with VF and VFO funnels in heat-insulated roofs with two-level vapor- and water insulation. Seal with lockring prevents storm runoff from getting into thermal insulation layer in the place where put-on element connects with funnel. May also be used as an independent item like VF funnels.

**PUT-ON ELEMENT NE-F**

**Put-on element with crimp flange, completed with leaf trap and PVC apron**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with VF and VFO funnels in heat-insulated roofs with two-level vapor- and water insulation. Seal with lockring prevents storm runoff from getting into thermal insulation layer in the place where put-on element connects with funnel. May also be used as an independent item like VF funnels. Completed with PVC apron.

---

**PRESSURE AND SEALING RINGS M**

**Pressure and sealing rings**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Mounted in roof funnels with leaf trap and crimp flange to pack a joint of the funnel and put-on element to prevent back-water effect.

**APRON NB AND NP**

**Apron for funnels**

**Material:** NB apron is made of polymer-bitumen roof covering, NP apron — made of PVC material.

**Use:** Connected with VF, VFO, VFR and VFOR funnels or NE put-on element before their mounting to the roof; apron and roof are joined by welding (gluing).

---

**GULLEY T**

**Gulley for removing moisture from the surface of accessible roofs**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used together with VF and VFO funnels in heat-insulated roofs with two-level vapor- and water insulation. Seal with lockring prevents storm runoff from getting into thermoinsulation layer in the place where put-on element connects with funnel. May also be used as an independent item like VF funnels. Completed with PVC apron.

**EXTENTION U**

**Roof funnel extension**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used in roofs of different types when one of the roofing pie layers has an increased thickness. Compatible with leaf trap, TO and TD2 gulleys, as well as VF, VFO, VFR and VFOR funnels and put-on element NE-D1 or NE-M.

---

**ELASTIC SEALING CUP M1**

**Elastic sealing cup for assembly of roof funnels**

**Material:** Made of low-pressure polyethylene, resistant to weather and UV impact within -50 to +80 °C range.

**Use:** Used for assembly of VF or VFO roof funnels (standard size 90x450) with steel, iron or plastic tubes Ø100 mm.
TECHNICAL INSULATION
FASTENING SYSTEMS

4 WALL
DISK-SHAPED HOLDER
WELDED PIN CD/PWP2.7
WELDED PIN WITH A WASHER CD/PWP2.7 ISOL
WELDED PIN CT/WP2
WELDED PIN CD/WP2
WELDED PIN SC/WP3
PW2
PW3
PW2-ISOL
PW3-ISOL
4 WALL

Metal disk-shaped anchor for fastening fire retardant heat insulating boards

**Material:**
Disk-shaped anchor is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Designed for fastening fire retardant heat insulating boards to the bearing foundation. Used together with the disk-shaped holder.

CT/WP2

Metal welded pin for fastening technical insulation and fire protection elements by means of contact transformer welding

**Material:**
Welded pin is made of carbon steel with durable copper corrosion-resistant coating.

**Use:**
Designed for fastening fire retardant heat-insulating boards to air pipes. One should use special contact welding machines for Termoclip pins assembly.

CD/WP2

Metal welded pin for fastening technical insulation and fire protection elements by means of contact welding (capacitor discharge method)

**Material:**
Welded pin is made of carbon steel with durable copper corrosion-resistant coating.

**Use:**
Designed for fastening fire retardant heat-insulating boards to air pipes. One should use special contact welding machines for Termoclip pins assembly.

CD/WWP2.7

Metal welded isolated pin with an attached metal washer for fastening technical insulation and fire protection elements by means of contact welding (capacitor discharge method)

**Material:**
Metal welded isolated pin is made of carbon steel with durable copper corrosion-resistant coating. Washer is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Designed for fastening fire retardant heat-insulating boards to air pipes. One should use special contact welding machines for Termoclip pins assembly.

CS/WP3

Welded pin for fastening technical insulation and fire protection elements by means of short frame arc welding

**Material:**
Welded pin is made of carbon steel with durable copper corrosion-resistant coating.

**Use:**
Designed for fastening fire retardant heat-insulating boards to air pipes. One should use special contact welding machines for Termoclip pins assembly.

PW2, PW3

Washers, used together with pin CT/WP2 or CD/WP2, CD/WP3 or SC/WP3

**Material:**
Made of carbon steel with durable corrosion-resistant coating.

**Use:**
Washer for fastening technical insulation or fire protection elements.

PW2-ISOL, PW3-ISOL

Washer, used together with pin CT/WP2 or CD/WP2, CD/WP3 or SC/WP3

**Material:**
Made of carbon steel with durable corrosion-resistant coating.

**Use:**
Washer for fastening technical insulation or fire protection elements.
CONCRETE NAIL
S WALL
R WALL
LS1
LS2
**CONCRETE NAIL**

Concrete nail with polymeric washer

**Material:**
Drop-in element made of zinc-plated corrosion resistant steel and a profiled washer. Washer has a groove for joint sealer, is made of acid-, alkali- and frost-resistant polymer and is corrosion-resistant.

**Use:**
Designed for fastening profiled membranes to the wall surface.

**5 WALL**

Disk-shaped polymeric dowel without spacing element for fastening drainage canvas to the wall surface

**Material:**
Disk-shaped dowel is made of block-copolymer based on high molecular weight polyethylene having high stress and strain properties. The dowel can be installed in one operation (no need to drive in an expanding anchor).

**Use:**
Disk-shaped dowel is designed for fastening drainage canvas to the wall in the drilled holes. Wall 5 dowels are used for fastening membranes to concrete, brick walls or rocky materials.

**R WALL**

Polymeric screw dowel with a disk-shaped holder for fastening wind- and waterproof membranes to heat insulation boards

**Material:**
Screw dowel is made of high-quality polyethylene with high strain and stress properties.

**Use:**
Designed for fastening wind- and waterproof membranes directly to heat insulation boards. Installed without preliminary drilling.

**LS1**

Metal perforated tape for fastening systems of non-insulated penetration, water and heat supply through enclosure structures

**Material:**
Perforated tape TERMOCLIP is made of carbon steel with durable corrosion-resistant coating.

**Use:**
Perforated tape is designed for fastening systems of non-insulated penetration, water and heat supply through enclosure structures.

**LS2**

Metal perforated tape for fastening systems of non-insulated penetration, water and heat supply through enclosure structures

**Material:**
Perforated tape TERMOCLIP is made of carbon steel with durable corrosion-resistant coating. Operation temperature range -50...+80 °C.

**Use:**
Designed for assembly of utility systems and reinforcing enclosure structures.
 COMPANY CARD.  
KEY ADVANTAGES

1. Russian manufacturing company has complete production cycle

2. Total quality control using the own company laboratory

3. Wide range of manufacturing products make it possible to fix all types of insulation with different types of base material

4. High strength technical characteristics provides using less fixing consequently saving costs

5. Providing long on performance according with mechanical and environmental conditions Russia-wide

6. Reduce work due to ease montage and no waste during it

7. Technical assistance and consulting throughout construction

8. Insurance liabilities and warranty

KEY ADVANTAGES:  
THE INSURED WARRANTY

Insurance liabilities:  
Unconditional producer responsibility for the entire assortment of production

The amount of insurance coverage:  
10 000 000 RUB

Warranty:  
5 years

СТРАХОВАЯ КОМПАНИЯ

Liberty Mutual Group was founded in 1912, in Boston, USA. Insurance Group is organized as a mutual insurance company, which means that it belongs to policyholders rather than shareholders.

The main areas of business: auto insurance and corporate activity. Group companies operate in the USA, Europe, Asia and Latin America. Assets on the results of the Group in 2013 amounted to $121.282 billion, the proceeds — $38.509 billion, profit — $1.743 billion.

The group holds 81 seats in the Fortune list (Magazine, 2013) and has the highest financial strength rating: A (Excellent), A. M. Best Co; A- (Strong), Standard & Poor’s; A2 (Good), Moody’s.

The catalog provides information on Termoclip products manufactured and sold in the Russian Federation.