

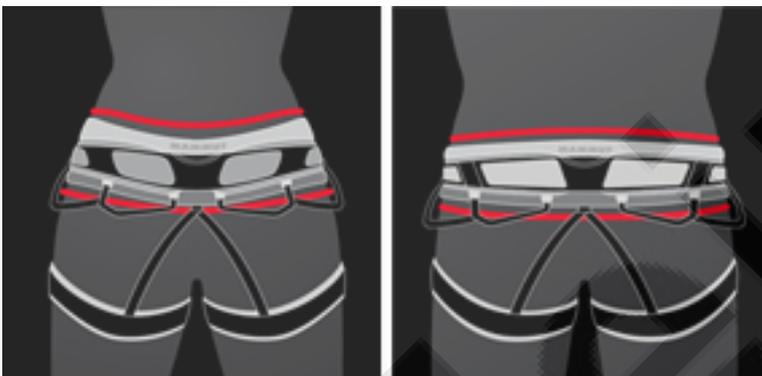


MAMMUT

Mammut Special Features

It's not only «Swiss quality» and one hundred percent dependability over a long life span which sets our harnesses apart. Our research engineers are continually developing innovative solutions that make Mammut harnesses «State of the Art», and which have earned us many awards in neutral tests in the past.

Anatomically shaped hip belts and leg loops

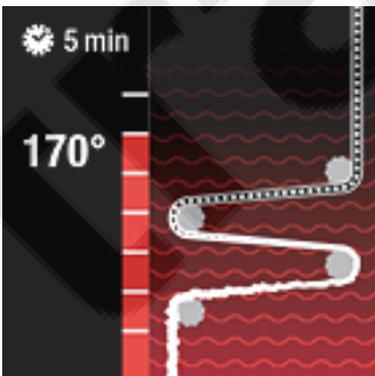


Women's hip belt / Men's hip belt

All Mammut climbing harnesses have been designed to fit the shape of the human body, to ensure that they sit correctly and to guarantee full freedom of movement. We also naturally make a distinction between men's and women's harnesses: the hip belts on the women's models are slightly more curved than those on the men's harnesses. Both the women's and the men's harnesses are therefore perfectly tailored to the wearer's anatomy. The leg loops on the women's harnesses are also slightly wider than on the men's versions, as well as an extended belay loop on the women's models.

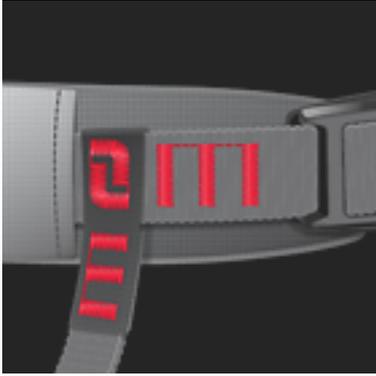
The gender-specific design of Mammut's harnesses has been evaluated in extensive testing and practical trials by male and female Mammut athletes. All the testers agreed that the design of the Mammut harnesses opens up unlimited climbing pleasure.

Thermo-fixed webbing



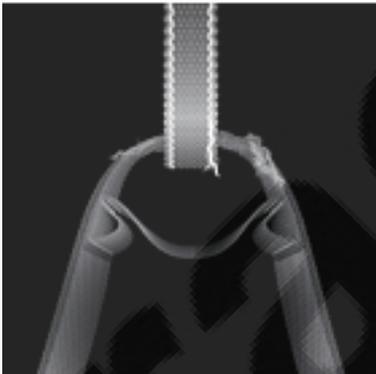
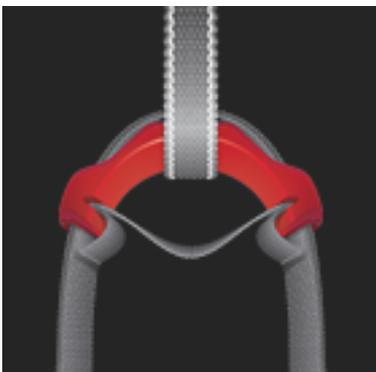
The buckle webbings and the webbings on the leg loops are stabilised using a specially developed thermal process which significantly improves the durability of the webbing construction. This thermo-fixing process also significantly improves the handling properties of the webbing in comparison with traditional, untreated and soft webbing.

Seam technology



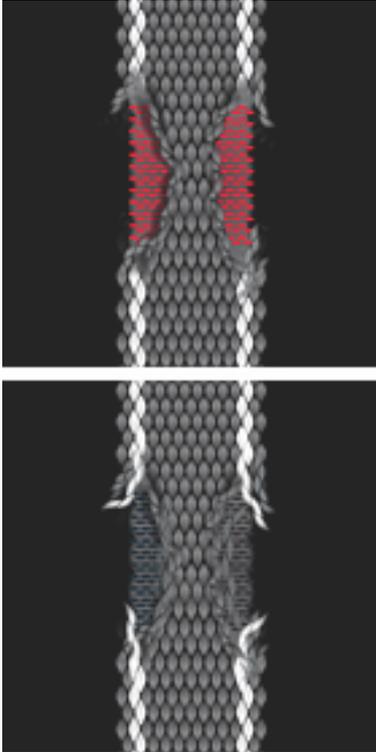
All relevant safety seams are continuously tested and optimised during the prototype phase. If the test results meet our high requirements – and only then – the developed seam images are saved. This guarantees the same high quality for every harness in a production series on our computer-controlled sewing machines.

Protector



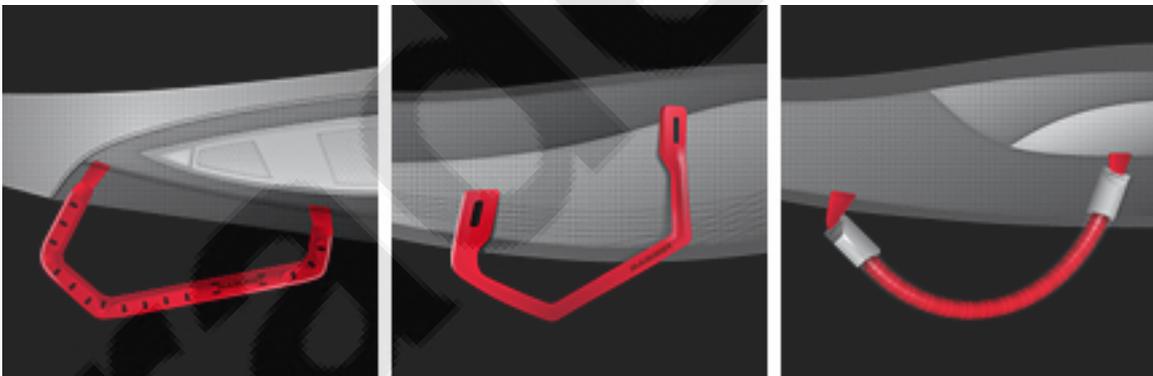
The patented Protector protects the most sensitive areas on the harness from premature wear: the leg loop connection. Tests by alpine clubs and in our laboratory have shown that this area comes under great pressure as the result of the constant rubbing of the rope – when falling, through movement when hanging, and when abseiling. We are the first manufacturer to have developed protection for this wear-prone area: the Protector, a stable and abrasion-resistant plastic section integrated in the leg loop connection. Not only does the Protector provide abrasion protection and therefore greater durability, it also distributes the load evenly over both leg loops, further improving hanging comfort. Our attention for detail extends to a design which prevents the rope from slipping. The ISPO Outdoor Award for the Protector is proof of Mammut's innovative expertise.

Indicator technology



The Mammut Indicator technology is used in all areas where the harness is subject to particularly strong friction: the upper belay loop and the belay ring. In the case of excessive wear, the contrasting red core shows through, telling the user that the harness needs to be replaced. This represents an additional safety feature.

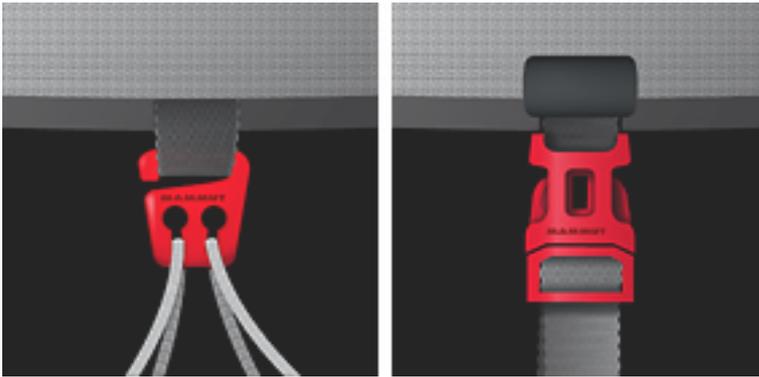
Gear loops



Gear loop Zephir / Gear loop Togir / Gear loop Ophir

Gear carried on the gear loops – depending on your chosen discipline, for example, express slings, wedges, hooks, ice screws or belay devices – needs to be easy to find and access. Different types of gear loops are used on the harnesses in the Mammut range: the Zephir and Togir models feature specially shaped gear loops made from high-quality synthetic material. They are designed to ensure that express slings can always be taken from exactly the same place, as the remaining express slings always move up when the first one is removed. A textile solution is used for the Ophir harnesses: webbing attached to the hip belt is bound by a Hytrel tube, giving the gear loops their rounded profile. The gear loop caps make the gear loops protrude at a slight angle to the harness, helping you to organise your equipment quickly and easily.

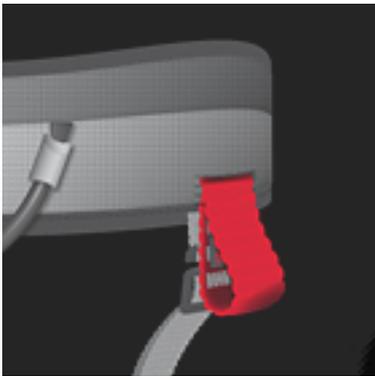
Drop Seat solutions



Drop Seat Zephir / Drop Seat Togir

A range of Drop Seat solutions allow the elastic straps on the leg loops to be quickly and easily undone from the back of the hip belt. A practical feature in the event of a "call of nature" and also ideal to allow you to easily adjust the length of leg loop holder. Different Drop Seat solutions are used in Mammut harnesses, depending on the application: the alpine harnesses in the Togir line feature a click buckle, which is also easy to operate when wearing gloves. While the harnesses in the Zephir and Ophir lines use a metal hook, which is attached to a specially provided loop.

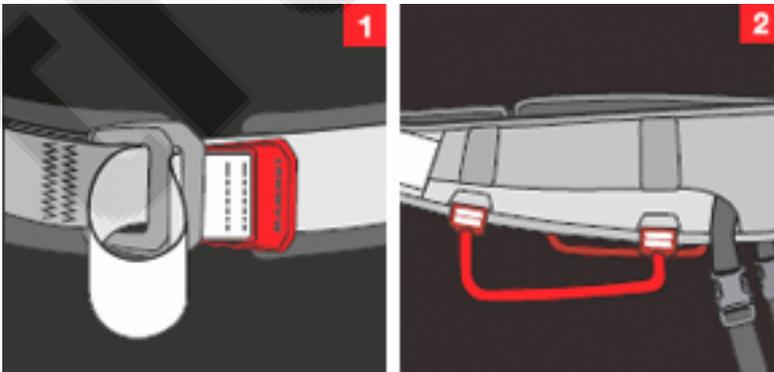
Haul loop



The harnesses in the Togir and Ophir lines are equipped with a haul loop. Located on the back of the harness, this loop is used during multi-pitch climbing, in particular big wall climbing, to pull in the "haul rope". When the lead climber reaches the belay station, he starts to pull in the "haul rope" and the attached equipment (backpack, haul bag, etc.). The haul loops on Mammut harnesses are designed for a load capacity of 5kN. A haul loop is also ideal for securing a chalk bag.

Mammut® Safety Features

Rental operation puts extremely high demands on the safety of a harness. Incorrect use must be eliminated to ensure the highest amount of safety. This was achieved by integrating special safety features into the harnesses of the rental line:



1. Dogbone

The so-called dogbone is a plastic reinforcement at the webbing end. It is dimensioned in a manner that ensures that the strap cannot be threaded through the buckle.

2. Full Strength Gear Loops

The gear loops on the harnesses of the rental line were designed to withhold a load of 12 kN. An additional plus in safety in rental operations.

tradereinTM

Types of climbing harnesses

The EN-standard 12277 differentiates between four different construction shapes of harnesses: combi-harness (Type A), childrens combi-harness (Type B), waist harness (Type C) and chest harness (Type D). Every type of harness has a different role and function; you choose a suitable model depending on the purpose for use and personal preference.

Typ C - Waist harness



The waist harness is, and for very good reason, the most widely used model. It is suitable for nearly every discipline of mountain sport, especially for difficult climbing on rock, ice and on alpine routes. 80% of the fall load is transferred through the leg loops onto the thighs, while the belt around the waist protects the spinal column. Since the waist harness is built around the bodies centre of gravity, the pull of the rope on long pitches is less annoying than other harness types. It also has great freedom of movement and a comfortable hanging position.

Innovation type – Climbing Shorts



Although the Mammut [Realization Shorts](#) officially come under type C – i.e a hip belt, and have been tested as such - this innovative product is far more than a traditional climbing harness. For the first time, the Mammut Realization Shorts combine the load-bearing structure of a climbing harness with a pair of shorts. The result is a whole new level of comfort, combined with great freedom of movement and a unique look. The Realization Shorts are ideal for indoor climbing in the gym or out on the cliffs and are helping Mammut Pro Team athletes and other climbers to achieve top performance on the rocks.

Typ D - Chest harness



In a few situations it is recommended to complete the waist harness with the additional use of a chest harness. Children up to the age of about 12 years old could slide out of a waist harness, which can be prevented through use of a chest harness; As they are often a bit top-heavy as well, it can help to keep them upright. People with a large hip circumference can also benefit from a chest harness to avoid slipping out of a harness. A chest harness should never be used by itself, since hanging free can lead to death by asphyxiation within a short space of time. To connect the waist and chest harness, usually an additional sling is used.

Typ A - Combi-harness or Full-body harness



The combi-harness has the same safety advantages for the demands of special situations as the combination of a waist and chest harness, but with less hanging comfort; however it is lighter and you don't need any other equipment to put it on, and due to its large adjustable area, it can be used for everything. It is especially good for Via Ferratas, where falls seldom pose a threat, but can often happen unexpectedly. Combi harnesses are also practical to rent out.

Typ B - Children's combi or Full-body harness



«Small body harnesses» are, according to standard, permitted for up to 40 kilograms body weight; due to this, narrower webbing can be used, which saves weight for the young mountaineer and improves comfort. The fully-adjustable harness has been especially designed to fit a child's anatomy and grows with the child. The Mammut children's combi harness also has padded leg loops for more comfort and fun when climbing or mountaineering.

Type	Typ C (Waist)	Typ D (Chest)	Typ A (Combi)	Typ B (Children-Combi)
optimal	Sport Climbing, Glacier Tours**, Ice Climbing, Mixed Routes	Only together with a waist harness: Alpinism, hanging with heavy backpack, heavier people	Alpinism, hanging with heavy backpack, heavier people, Via Ferrata	Kids (up to 12 years)
suitable	Alpine Climbing, Ski Touring	Only together with a waist harness: Via Ferrata	Beginner, Alpine Tours	-
acceptable	Beginner, Via Ferrata*	-	-	-
not suitable	Children (up to 12 years), heavier people, hanging with heavy backpack	-	-	-

* Waist harnesses alone, or in combination with chest harnesses, are equally recommended for roping up in Via Ferrata.

** On Glacier tours, chest harnesses together with waist harnesses are not used anymore for tying in, due to the uncomfortable belay position.

Construction of a climbing harness

Modern climbing harnesses are based on different constructions. Once again, Mammut is a trailblazer in development and its Togir and Ophir lines have introduced the innovative two-part webbing construction to the world of climbing harnesses: thanks to the two-part strap passage, the pressure is distributed evenly over the area of the hip belt and leg loops. The result is a whole new level of comfort, combined with a light weight. The high-end harnesses in the Zephir line are taking the basic idea behind this technology in terms of weight and comfort to a whole new level, with split webbing technology (patent applied for).

The small details also create a distinction between different harnesses: high-quality climbing harnesses incorporate a range of small but functional details, which have been fine-tuned during extensive development and practical tests. These [details](#) reflect the combined experience of our alpine and climbing professionals.

Mammut Realization Shorts

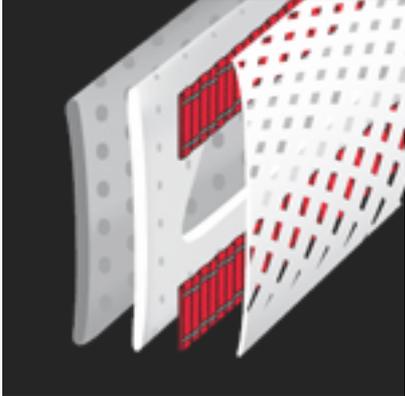
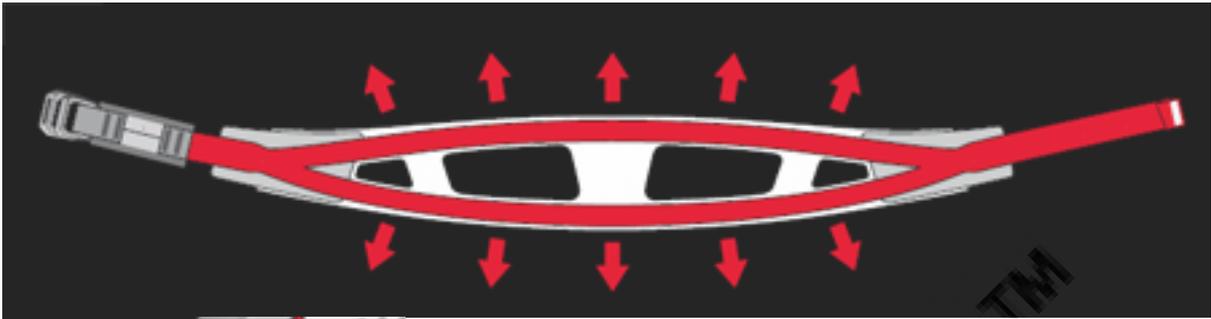


The Mammut [Realization Shorts](#) are the first climbing shorts with a completely integrated climbing harness. The patented Mammut Split Webbing gives the Realization Shorts their load-bearing structure. This is integrated in the waistband of the shorts, with the leg loops stitched into light inner shorts separate from the shorts. The highlight: one single split webbing with three split areas is integrated so that there is one split area in each leg loop and in the hip belt. This ensures even distribution of force and therefore maximum comfort. This design also offers enormous freedom of movement.

Mammut Split Webbing Technology

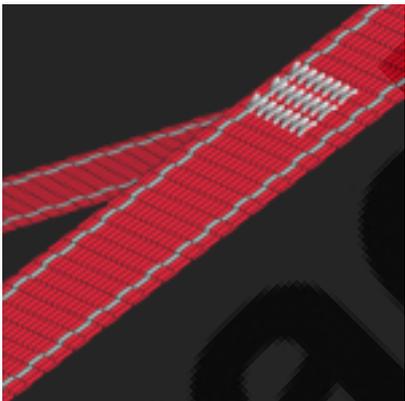


Mammut's extensive experience in strap design was incorporated into the development of the harnesses for the Zephir line. A new and innovative strap was developed specifically for this high-end harnesses: the patent-pending Split Webbing. By means of a complex and innovative webbing process it was possible to split the strap into two straps. This saves weight and allows for a unique harness design. The strap passage of the Split Webbing allows for even pressure distribution across the whole width of the hip belt and the leg loops. This provides maximum comfort, light weight and maximum freedom of movement:



The large ventilation openings in the split area of the webbing and the use of particularly breathable materials make the Zephir harnesses very breathable combined with a very light weight.

Mammut two-part webbing construction

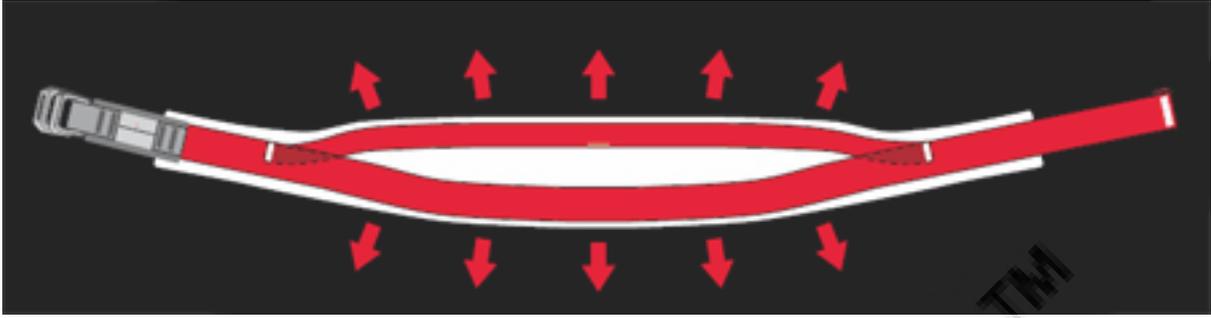


The harnesses in the Togir and Ophir lines feature the proven Mammut two-part webbing construction. In contrast to the Split Webbing technology, a support band is sewn in with the webbing.

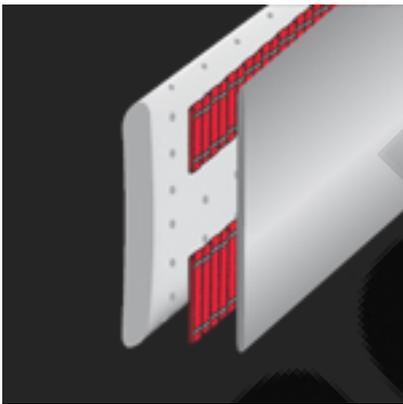
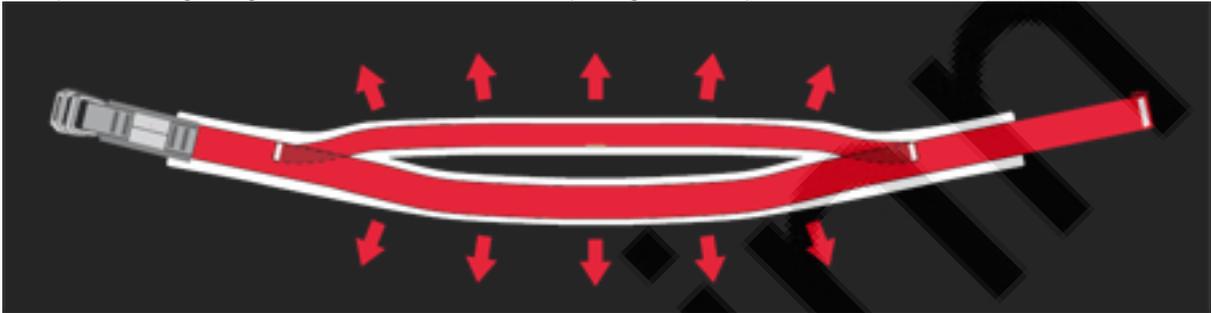
For the harnesses in the Togir range, the two-part webbing construction is combined with a laminating technology. The result is a very flat harness design, making the Togir harnesses very non-obtrusive. In the case of the harnesses in the Ophir line, the focus is on breathability and the laminating technology is therefore not used. Instead, the Ophir harnesses have large ventilation openings between the two webbing sections.

Thanks to the two-part webbing path, the pressure is evenly distributed over the entire width of the waist belt, not concentrated in one narrow strip. The greatest possible comfort during hanging and falls is achieved thanks to the anatomically shaped hip belt.

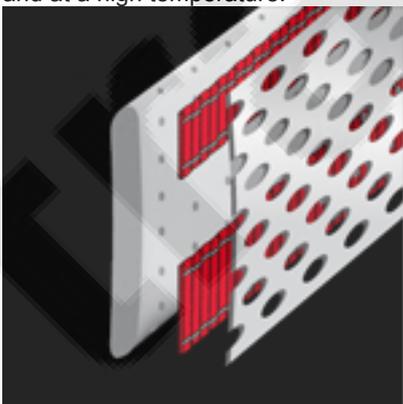
Two-part webbing design combined with laminating technology in the Togir series:



Two-part webbing design combined with ventilation openings in the Ophir series:



Laminating process in the Togir harnesses: different layers of material are combined under high pressure and at a high temperature.



Breathability of the Ophir harnesses: the generous long openings between the two webbing sections and the choice of particularly breathable materials, such as perforated padded foam and mesh fabrics, ensure pleasant breathability.

Applications

- Multipitch Rockclimbing:
Big Walls
- Sportsclimbing Performance:
If every gramm counts
- Sportsclimbing Allround:
Perfect balance between comfort, weight and handling
- Gym Climbing:
Maximum safety, easy handling and best comfort for use in gyms and training

Zephir

	Realization Shorts	Zephir	Zephira	Zephir Altitude
				
Alpine Climbing	○ ○ ○ ○ ○	● ○ ○ ○ ○ ○	● ○ ○ ○ ○ ○	● ● ● ● ● ●
Multipitch Rock Climbing	○ ○ ○ ○ ○	● ● ● ● ○ ○	● ● ● ● ○ ○	○ ○ ○ ○ ○ ○
Sportsclimbing Performance	● ● ● ● ● ●	● ● ● ● ● ●	● ● ● ● ● ●	○ ○ ○ ○ ○ ○
Sportsclimbing Allround	● ● ● ○ ○	● ● ● ● ● ○	● ● ● ● ● ○	○ ○ ○ ○ ○ ○
Gym Climbing	● ● ● ● ● ●	● ● ○ ○ ○ ○	● ● ○ ○ ○ ○	○ ○ ○ ○ ○ ○
Via Ferrata	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Schulung / Training	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Verschlussystem Buckle System	–	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Click-Schnalle Click Buckle
Beinschlaufe verstellbar Leg Loop Adjustable	○	○	○	●
Gewicht g (M) Weight g (M)	540	250	250	215

Togir

	Togir Light	Togira Light	Togir Slide	Togira Slide	Togir Click
					
Alpine Climbing	●●●●○	●●●●○	●●●●●	●●●●●	●●●●●
Multipitch Rock Climbing	●●●●●	●●●●●	●●●●○	●●●●○	●●●●○
Sportscimbing Performance	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○
Sportscimbing Allround	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○
Gym Climbing	●●○○○	●●○○○	●●○○○	●●○○○	●●○○○
Via Ferrata	●○○○○	●○○○○	●●○○○	●●○○○	●●○○○
Schulung / Training	○○○○○	○○○○○	○○○○○	○○○○○	○○○○○
Verschlussystem Buckle System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Click-Schnalle Click Buckle
Beinschlaufe verstellbar Leg loop adjustable	○	○	●	●	●
Gewicht g (M) Weight g (M)	350	350	450	450	450

Ophir

	Ophir	Ophira	Ophir 3 Slide	Ophira 3 Slide	Ophir 4 Slide
					
Alpine Climbing	● ○ ○ ○ ○	● ○ ○ ○ ○	● ○ ○ ○ ○	● ○ ○ ○ ○	● ○ ○ ○ ○
Multipitch Rock Climbing	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○
Sportscimbing Performance	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○
Sportscimbing Allround	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●
Gym Climbing	● ● ● ● ○	● ● ● ● ○	● ● ● ● ○	● ● ● ● ○	● ● ● ● ○
Via Ferrata	● ○ ○ ○ ○	● ○ ○ ○ ○	● ● ● ○ ○	● ● ● ○ ○	● ● ● ○ ○
Schulung / Training	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	● ● ● ○ ○
Verschlussystem Buckle System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System	Slide Bloc- Schnalle Slide Bloc System
Beinschlaufe verstellbar Leg loop adjustable	○	○	●	●	●
Gewicht g (M) Weight g (M)	360	360	420	420	450

Kids

tradeteam

	Ophir Kids	Elefantito
		
Alpine Climbing	○ ○ ○ ○ ○	● ○ ○ ○ ○
Multipitch Rock Climbing	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Sportscimbing Performance	● ○ ○ ○ ○	○ ○ ○ ○ ○
Sportscimbing Allround	● ● ● ● ○	● ○ ○ ○ ○
Gym Climbing	● ● ● ● ○	● ● ○ ○ ○
Via Ferrata	● ● ○ ○ ○	● ● ● ● ●
Schulung / Training	● ● ● ● ●	● ● ● ○ ○
Verschlussssystem <i>Buckle System</i>	Slide Bloc- Schnalle <i>Slide Bloc System</i>	Slide Bloc- Schnalle <i>Slide Bloc System</i>
Beinschlaufe verstellbar <i>Leg loop adjustable</i>	●	●
Gewicht g (M) <i>Weight g (M)</i>	300	400