

Kornelius Obleitner, South Africa  
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## ENGINEERED FOR CLIMBING



→ **ROCK PILLARS CLIMBING SHOES** enable the climbers to make their performance better, to maintain motivation, and to experience climbing at its best. The story has begun in Siberia. Rock Pillars was founded in late 80-ies. Few years later was Evgeniy Ovtchinnikov 3rd in the World Cup competing in Rock Pillars. At this time, Pavel Hendrych, Czech engineer and industrial designer has joined. Together with Evgeniy and other climbers, they have created shoes conforming needs of sport climbers. Rock Pillars are being created in atmosphere of high technology and deep user knowledge. Rock Pillars never stop bringing new technological solutions, lasts and rubber compounds. Thanks to precise construction and used materials Rock Pillars breaks the barrier in climbing, and sponsored climbers are the creative base for new solutions. Company producing also climbing equipment Ocún has its own manufacturing facilities in the Czech Republic. Today has around 100 dedicated employees and sells in 44 countries worldwide.

Rock Pillars – engineered for climbing



*We produce Rock Pillars climbing shoes in our own manufacturing facilities in the Czech Republic.*



*When developing the Rock Pillars climbing shoes, we intensively cooperate with a stable test climber team. We combine our specialized technology and know-how with deep user knowledge.*



*Rock Pillars climbing shoes enable the climbers to make their performance better, keep the climbers motivated and to experience the best climbing.*

# DIAMOND

ART. 00598



Extremely asymmetric shape predicts aggressive climbing shoes for competition and sport climbers. Important features of Diamond are validated by the tiniest footholds, edges, and holes, they make the crux workable. The upper is made of combination of natural and synthetic leather. This complex mixture – elastic and breathable at once – reaches ideal enlacement of the foot. This together with asymmetric lacing system makes not only perfect fixation of the foot inside of the shoe, but mainly brings focused power to the tip-toe while keeping great deal of sensibility. Seamless heel has a great comfort. Vibram XS Grip sole gives great friction.

→ **BEST FOR**  
bouldering, rock climbing, overhangs, edges, pockets, heelhooks

<b>Upper:</b> combined microfiber synthetic and natural leather	■ Padded airy tongue
<b>Color:</b> red / light grey	
<b>Lining:</b> semi-lined, polyester lining in front part	
<b>Last:</b> Excentric – very bent last, extremely asymmetric	
<b>Midsole:</b> Sulfex – 3D Fit	<b>Weight:</b> 472 g (7 UK)
<b>Sole:</b> Vibram XS Grip, 4 mm	<b>Sizes:</b> 3–13 UK



**DIAMOND** in detail



A mixture of elastic and breathable material reaches ideal enlacement of the foot.



Extremely asymmetric shape for maximum performance, asymmetric lacing system for proper power distribution.



Seamless heel fits perfectly.

## OZONE QC

ART. 00599

Ozone QC are asymmetric, anatomically shaped climbing shoes, sophisticated weapon for competition and sport climbers, the climbing shoe, which shortly after its launch has seen tremendous success and positive feedback from users. Also, the test results of well-known climbing periodicals confirm functionality of the shoe. Ozone QC are surprisingly precise on the tiniest footholds, edges and holes. Ozone QC sets a new trend and breaks barriers in climbing. Unique patented 3-Force system provides fixation of the forefoot by reacting against force vector by which the climbing shoes are naturally twisted from the foothold. Vibram XS Grip sole provides excellent friction. Well-designed heel part fits perfectly.



### → BEST FOR

bouldering, rock climbing, extreme sport climbing, competitions, overhangs, pockets, edges, toehooks, heelhooks

<b>Upper:</b> microfiber synthetic leather	■ Padded airy tongue
<b>Color:</b> green	■ 3-Force fixation of the forefoot
<b>Lining:</b> Polyester	
<b>Last:</b> Asymmetrix – slightly bent, very asymmetric	
<b>Midsole:</b> Suflex – 3D Fit	<b>Weight:</b> 454 g (7 UK)
<b>Sole:</b> Vibram XS Grip, 4 mm	<b>Sizes:</b> 3–13 UK



## OZONE SLIPPER

ART. 00600

Slipper version of Ozone QC climbing shoes. Ozone Slipper are asymmetric, anatomically shaped climbing shoes, which are winning their popularity not just because of the attractive green color. Unique patented 3-Force system provides perfect stability on the tiniest footholds and edges. Shape of Asymmetrix last and well-designed cut are the bases of this „hi-tech“ climbing shoe. Vibram XS Grip sole bites uncompromisingly any type of rock. The upper part, thanks to its stretchy effect, wraps closely the insole part of any foottype. Thanks to unique patented 3-Force system, the shoe works properly, fits perfectly and does not rotate around the shoe even after many hours of climbing. Ozone Slipper can be used in routes, where it was not possible to use any kind of slipper before.



### → BEST FOR

bouldering, rock climbing, extreme sport climbing, competitions, overhangs, pockets, edges, toehooks, heelhooks

<b>Upper:</b> microfiber synthetic leather	■ Padded airy tongue
<b>Color:</b> green	■ 3-Force fixation of the forefoot
<b>Lining:</b> Polyester	
<b>Last:</b> Asymmetrix – slightly bent, very asymmetric	
<b>Midsole:</b> Suflex – 3D Fit	<b>Weight:</b> 420 g (7 UK)
<b>Sole:</b> Vibram XS Grip, 4 mm	<b>Sizes:</b> 3–13 UK



# TOP GUN LU

ART. 00601

The weapon for cruising the hardest sport routes. Its qualities are much appreciated by boulderists. The main objective of this shoe construction was the best performance. Use of top-quality materials (including Vibram XS Grip sole), which reflect in every part of the shoe, is matter of course. The rubber covered toe is designed for maximizing toe hooking and jamming when the going gets steep. The precision toe turns the tiniest footholds into a stairway, and the heelcup grips the heel for maximum pulling. Sensible textile lining and Vibram sole underline integrity of this shoe as a tool for most demanding climbers.



→ **BEST FOR**  
bouldering, rock climbing, sport climbing, competitions, cracks, edges, heelhooks, toehooks

<b>Upper:</b> microfiber synthetic leather	▪ Padded airy tongue
<b>Color:</b> black	▪ Rubber patch for toe hooking
<b>Last:</b> Optimal - slightly bent with medium asymmetry, with enough space for all types of toes	
<b>Midsole:</b> Suflex	<b>Weight:</b> 438 g (7 UK)
<b>Sole:</b> Vibram XS Grip, 4 mm	<b>Sizes:</b> 3-13 UK



# TOP GUN QC

ART. 00595

On the concept of Top Gun LU, also this QC version is based, with the main idea to create a sport climbing shoe which can still be very comfortable. These conflicting requirements Rock Pillars brilliantly solved by the last shape, well-designed construction and precise cut. Top Gun QC can be used for wide range of climbing activities - on slabs, overhangs, indoor training and also for multi pitches. Stiff midsole makes it possible on micro footholds. Practical rubber foil covering the front part, enables toe hooking in its best. Sticky Vibram XS Grip works unflinchingly on any kind of rock.



→ **BEST FOR**  
bouldering, rock climbing, sport climbing, competitions, cracks, edges, heelhooks, toehooks

<b>Upper:</b> microfiber synthetic leather	▪ Padded airy tongue
<b>Color:</b> black	▪ Rubber patch for toe hooking
<b>Last:</b> Optimal - slightly bent with medium asymmetry, with enough space for all types of toes	
<b>Midsole:</b> Suflex	<b>Weight:</b> 454 g (7 UK)
<b>Sole:</b> Vibram XS Grip, 4 mm	<b>Sizes:</b> 3-13 UK



# PEARL LADY QC

ART. 02428

new

This purely female model is constructed to fit to anatomical specifications of lady feet. We have concentrated on comfort, functionality, and also design. It is performance model from synthetic leather which is very comfortable. Due to its construction the climbing shoes are precise and stable. Sole Grippin EDGE is superior on edges and tiny footholds. Down-toed front is suitable to overhangs and small pockets. Practical quick closure system make the shoes even more suitable for bouldering and short sport routes. Attractive green color underlines the concept together with hot-print design in the forefoot area.



## → BEST FOR

rock climbing, sport climbing, edges, holes, bouldering

Upper: microfiber synthetic leather	■ Padded airy tongue
Color: olive green	
Lining: Polyester	
Last: Radical - radically shaped front, medium asymmetry	
Midsole: Suflex	Weight: 410 g (7 UK)
Sole: Grippin EDGE, 4 mm	Sizes: 3-8 UK

GRIPPIN<sup>®</sup>

# PEARL LU

ART. 00594

Pearl LU is now legendary, super-lightweight shoe for sport climbing, made of high-quality synthetic leather on microfibre basis, lined with comfortable polyester fabric. Grippin EDGE sole gives great support on overhangs, allows the climber to stand well on tiny edges and small pockets. The special cut gives the right stiffness, yet maintains excellent sensitivity of the shoe. Quick closure system, the lined airy tongue and the raised heel make this climbing shoe comfortable. With its asymmetrical "Radical" shape, the downward pointing toe, and tight heel, the Pearl LU gives confidence and makes it possible to concentrate on maximizing performance. For 2012, the shoe has got a new modern fresh look.



## → BEST FOR

rock climbing, sport routes, competitions, multi-pitch, edges

Upper: microfiber synthetic leather	■ Padded airy tongue
Color: light grey	
Lining: Polyester	
Last: Radical - radically shaped front, medium asymmetry	
Midsole: Suflex	Weight: 390 g (7 UK)
Sole: Grippin EDGE, 4 mm	Sizes: 3-13 UK

GRIPPIN<sup>®</sup>

## REBEL LU



ART. 02429

Development of this new model was based on the experience we gained on Ozones. The shoes are built on latest Asymmetrix last. Front part supports the toes by anatomically shaped midsole, heel fits perfectly. Relaxed forefoot can be precisely adjusted by lacing system, offering comfort to wider feet as well. Front rand-rubber system covers the big toe and the whole upper, preventing the damage. Sole is made of tested compound Grippin EDGE, back part of the sole is molded with attractive tyre design which will not let you down. This middle class model is aimed at wide spectrum of climbers, ranging from sport ambition to leisure use.



→ **BEST FOR**  
bouldering, rock climbing, overhangs, edges, holes, toehooks, heelhooks

Upper: microfiber synthetic leather	■ Padded airy tongue
Color: black / white	
Lining: Polyester	
Last: Asymmetrix – slightly bent, very asymmetric	
Midssole: Suflex – 3D Fit	Weight: 438 g (7 UK)
Sole: Grippin EDGE, 4 mm	Sizes: 3–13 UK



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## REBEL QC



ART. 02430

Quick closure variation of Rebel LU model which will be appreciated mainly by boulderers. The shoes contain the essence of Ozone QC – last, down-toed sole, fitting heel and more fine details. Opposite closures together with separated tongue make the on-off phase so easy. Metal rings with fortified strenght are integrated into the upper and thus secured from rock-surface damage. This middle class shoes are aimed at full range of climbers of all grades and styles.



→ **BEST FOR**  
bouldering, rock climbing, overhangs, edges, holes, toehooks, heelhooks

Upper: microfiber synthetic leather	■ Padded airy tongue
Color: black / white	
Lining: Polyester	
Last: Asymmetrix – slightly bent, very asymmetric	
Midssole: Suflex – 3D Fit	Weight: 456 g (7 UK)
Sole: Grippin EDGE, 4 mm	Sizes: 3–13 UK



GRIPPIN®

# ZEROCKS

ART. 00589

Zerocks are definitely one of the best all-around rock shoes on market. The use of Anatomic last provides sensitivity and brings precision while standing on very tiny footholds. This feature is also supported by synthetic micro fiber uppers which allow the user to get a comfortable, precise, tight fit. Raised heel part provides outstanding confidence for hard heel hooking. Sticking Grippin EDGE with excellent adhesivity underlines quality and hi-tech level of this sport climbing shoe.

## → BEST FOR

rock climbing, bouldering, multi-pitch, overhangs, pockets, edges, heelhooks

<b>Upper:</b> combined microfiber synthetic and natural leather	■ Padded airy tongue
<b>Color:</b> orange / grey	
<b>Lining:</b> semi-lined, polyester lining in front part	
<b>Last:</b> Anatomic – medium bent, medium asymmetric	
<b>Midsole:</b> Suflex	<b>Weight:</b> 432 g (7 UK)
<b>Sole:</b> Grippin EDGE, 4 mm	<b>Sizes:</b> 3-13 UK

GRIPPIN<sup>E</sup>

# STREAM

ART. 00587

Stream has simple, yet technically perfect construction. Toe part, which is shaped for good functionality on tiny footholds, corresponds perfectly with deeper, anatomically shaped heel for precise heel hooking. Comfort is provided by polyester lining in most exposed parts and airy padded tongue. Practical quick closure system makes easy put on / take off possible. Highly adhesive Grippin EDGE sole provides excellent friction. Stream is universal shoe that balances both – comfort with high performance.

## → BEST FOR

all-round climbing, rock climbing, bouldering, multi-pitch, indoor

<b>Upper:</b> natural leather	■ Padded airy tongue
<b>Color:</b> yellow	
<b>Lining:</b> semi-lined, cotton lining in front part	
<b>Last:</b> Optimal – slightly bent with medium asymmetry, with enough space for all types of toes	
<b>Midsole:</b> Suflex	<b>Weight:</b> 472 g (7 UK)
<b>Sole:</b> Grippin EDGE, 4 mm	<b>Sizes:</b> 3-13 UK

GRIPPIN<sup>E</sup>

# ZEAL

ART. 00588

Zeal is a powerful combat shoe, very universal shoe for all kinds of climbing and all kinds of rock. It is an ideal shoe for climbers with intermediate to advanced climbing skills. Zeal was the first model made on the "Radical" last, with double-layer rand and innovative rubber application on the toe box. Also the fast lace-up system, breathable tongue, lining in front part and perforated heel are special features that have been part of this shoe since 2000. Due to its performance on rock, Zeal gained its popularity. The union of modern and classic, in materials and design – that is the objective of Zeal.

## → BEST FOR

rock climbing, sport routes, multi-pitch, edges, cracks, toehooks

<b>Upper:</b> natural leather	■ Padded airy tongue
<b>Color:</b> grey	■ Rubber reinforcement in front upper part
<b>Lining:</b> semi-lined, cotton lining in front part	
<b>Last:</b> Radical – radically shaped front, medium asymmetry	
<b>Midsole:</b> Suflex	<b>Weight:</b> 462 g (7 UK)
<b>Sole:</b> Grippin EDGE, 4 mm	<b>Sizes:</b> 3-13 UK

GRIPPIN<sup>E</sup>

# STRIKE LU

ART. 02431

Strike LU are comfortable and well fitting climbing shoes based on quality materials and precise construction. Rather flat last profile, soft padded tongue, relaxed heelpart and full lining are the grounds on which the comfort of this shoe stands. Combination of fully lined synthetic leather, basic last, and precise cut sets new standards in comfort of climbing shoe. Practical quick lace up system makes the start even easier. The result are climbing shoes having indoor gym durability, sport route preciseness and also multi-pitch usability. It is possible to climb and boulder all-day-long. Their features appreciate thousands of satisfied users.



→ **BEST FOR**  
indoor climbing, rock climbing, multi-pitch, slabs

<b>Upper:</b> microfiber synthetic leather	■ Padded airy tongue
<b>Color:</b> turquoise	
<b>Lining:</b> Polyester	
<b>Last:</b> Basic - flat with slight asymmetry	
<b>Midssole:</b> Troniflex	<b>Weight:</b> 406 g (7 UK)
<b>Sole:</b> Grippin DURA, 4 mm	<b>Sizes:</b> 3-13 UK



# STRIKE QC

ART. 02432

Strike QC are comfortable and well-fitting climbing shoes. Base for these shoes are quality materials and precise construction. Flat-type last, soft padded airy tongue, relaxed seamless heel and quick closure (QC) system strengthen their comfort and practicality. The result are climbing shoes purposed for both rock and gym climbing, which bring great value also in multi-pitch climbs. It is possible to climb and boulder all-day-long in them.



→ **BEST FOR**  
indoor climbing, rock climbing, multi-pitch, slabs

<b>Upper:</b> microfiber synthetic leather	■ Padded airy tongue
<b>Color:</b> turquoise	
<b>Lining:</b> Polyester	
<b>Last:</b> Basic - flat with slight asymmetry	
<b>Midssole:</b> Troniflex	<b>Weight:</b> 429 g (7 UK)
<b>Sole:</b> Grippin DURA, 4 mm	<b>Sizes:</b> 3-13 UK



# SUMMIT LU

ART. 02235

Summit LU is a climbing shoe made of semi-lined natural leather, based on Basic last, primarily intended for entry-level category. Comfortable last, precise cut, natural leather and important construction elements like hard midsole are the key points for this versatile climbing shoe, which offers comfort for multi-pitches, single-pitch sensitivity and indoor gym durability. Summit LU are solid climbing shoes, suitable for those, who want to have one pair of shoes for all kind of climbing activities.



## → BEST FOR

indoor climbing, rock climbing, multi-pitch, slabs, pockets, edges

Upper: natural leather	
Color: yellow	
Lining: semi-lined, cotton lining in front part	
Last: Basic - flat with slight asymmetry	
Midsole: Troniflex	Weight: 510 g (7 UK)
Sole: Grippin DURA, 4 mm	Sizes: 3-15 UK



**GRIPPIN**  
ROCKLIFE

# SUMMIT QC

ART. 02433

Comfortable shoes made from natural leather, built on Summit LU basis. Primary purpose of these shoes is to serve as much as possible to beginners, artificial wall climbers and multi pitch rock climbers. Comfortable quick closure system makes the fitting even easier. Main features are comfort, simplicity and durability.



## → BEST FOR

indoor climbing, rock climbing, multi-pitch, slabs, pockets, edges

Upper: natural leather	
Color: yellow	
Last: Basic - flat with slight asymmetry	
Midsole: Troniflex	Weight: 516 g (7 UK)
Sole: Grippin DURA, 4 mm	Sizes: 3-15 UK



**GRIPPIN**  
ROCKLIFE

# RENTAL LU

ART. 00596

Comfortable climbing shoes constructed specially for gyms, renting purposes, and climbing courses. The sole rubber is pulled over the front edge. In this way, the most exposed part of the shoe is protected perfectly with a thick rubber layer. So in this part, 6 mm of rubber is applied. This ensures incredible durability of the shoe and makes it almost undestroyable. On the back of the shoes the UK size is clearly indicated. For easier handling, and stocking purposes the shoes are equipped with buttons for joining the pair together. Rental LU are comfortable climbing shoes mainly for beginner climbers, or for those who search economical, yet durable model for random climbing trips.



→ **BEST FOR**  
indoor climbing, renting purposes, climbing courses

<b>Upper:</b> microfiber synthetic leather	■ UK size marking at heel part
<b>Color:</b> red	■ Push-button joint system for easy storage
<b>Lining:</b> Polyester	
<b>Last:</b> Basic - flat with slight asymmetry	
<b>Midssole:</b> Suflex	<b>Weight:</b> 484 g (7 UK)
<b>Sole:</b> Grippin DURA, 5 mm	<b>Sizes:</b> 3-13 UK



**GRIPPIN**  
LOCK-FLEX

# RENTAL QC



ART. 02434

Quick closure variation of the popular Rental LU model, now with unique sole system. This model was constructed based on demand of wall owners and proprietors. Superior comfort and durability will make the shoes memorable.



→ **BEST FOR**  
indoor climbing, renting purposes, climbing courses

<b>Upper:</b> microfiber synthetic leather	■ UK size marking at heel part
<b>Color:</b> orange, blue, red	■ Push-button joint system for easy storage
<b>Lining:</b> Polyester	
<b>Last:</b> Basic - flat with slight asymmetry	
<b>Midssole:</b> Suflex	<b>Weight:</b> 480 g (7 UK)
<b>Sole:</b> Grippin DURA, 5 mm	<b>Sizes:</b> 3-13 UK



**GRIPPIN**  
LOCK-FLEX

# HERO LU

ART. 02435

For those, who start very early, we developed HeroLU. This model will let the youngsters keep up with Mum and Dad, or whoever their climbing hero may be. Now in the new attractive green color. The shoe was made with emphasis on the comfort of the child's foot. The fully lined microfiber leather and the elastic heel fit really well.



→ **BEST FOR**  
children

<b>Upper:</b> microfiber synthetic leather	■ Elastic heel part
<b>Color:</b> green	
<b>Last:</b> Baby - flat, slight asymmetry, correspond with orthopedic requirements of children shoes	<b>Weight:</b> 186 g (31 EUR)
<b>Sole:</b> Grippin DURA, 4 mm	<b>Sizes:</b> 27-35 EUR


**GRIPPIN**  
DURA

# HERO QC

ART. 02436

For little climbers, who don't know how to lace up yet, but love the freedom of climbing, there is this elegant model Hero QC with quick closure system. Now in the new attractive green color.



→ **BEST FOR**  
children

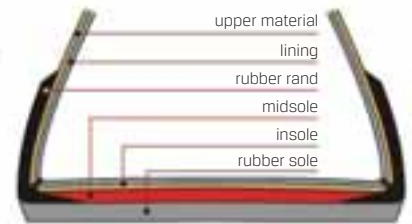
<b>Upper:</b> microfiber synthetic leather	■ Elastic heel part
<b>Color:</b> green / black	
<b>Last:</b> Baby - flat, slight asymmetry, correspond with orthopedic requirements of children shoes	<b>Weight:</b> 172 g (31 EUR)
<b>Sole:</b> Grippin DURA, 4 mm	<b>Sizes:</b> 27-35 EUR


**GRIPPIN**  
DURA

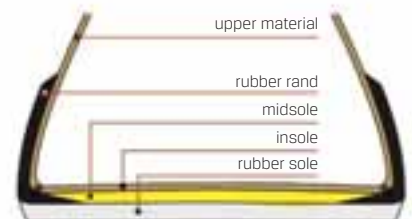

# CLIMBING SHOE CONSTRUCTION



## LINED UPPER



## UNLINED UPPER



### UPPER CONSTRUCTION MATERIALS AND LINING

The Rock Pillars climbing shoes are made either of natural leather or synthetic leather or a combination of both. Traditional material for climbing shoes upper production is split suede leather. It brings comfort and is enough hygienic and breathable. For reduction of elasticity and technological strengthening it is reinforced by cotton lining. Modern and technologically advanced material is its synthetic imitation from Polyester microfiber. This material has far better parameters of elasticity and dimensional stability. It gives the shoes partial elastic features. Also lining is customized to respect this elasticity and that is why is used the absorbent Polyester knit. In hygienic parameters synthetic materials are behind natural leather but this can be balanced by washing.

#### → Padded airy tongue

Airy tongue glued-up of three layers of permeable materials – absorbent lining, perforated foam and 3D Mesh knitted fabric – provides permanent ventilation of the shoe.

#### → Seamless heel

Since 1994, Rock Pillars has been using a special upper-cut construction, where no snip goes through the heel area, so it means that the heel is without any seams. Such a heel is much more comfortable compared to other shoe constructions (especially in case of climbing shoes which have pre-stressed heel-band and the heel is more pressed).

### MIDSOLE

Midsole is very important component in the climbing shoe construction. The midsole gives stiffness of the shoe. It significantly affects constructional reinforcement and shape stability. According to used material, its thickness and manufacturing technology, the midsole gives to the shoes important features which define sensitivity and stability for climbing on edges. Modern technologies use thermo molding of flexible materials which have shape memory. These features significantly affect efficiency in climbing. Rock Pillars use 3D Fit system.

#### → 3D Fit midsole

Construction of thermo-molded midsole of convex shape provides support for toes and constructional stiffness for a good transference of forces. It is made of thermo-active and flexible, shape-stable materials.

### RANDS, RUBBER PATCH AND POWER DISTRIBUTION

Besides upper material features, its construction and last is composition of all rubber parts including sole one of the most essential factors which give the shoes final features. These parts are not only to cover and protect the upper from heavy use in rocks, they are also important construction point contributing largely to correct function of the climbing shoes – foot stability. Correct force distribution based on foot anatomy knowledge and tension requirements of the construction used by specific climbing techniques, defined correct

shape of rubber parts and main features of rubber. Handmade completion and correct pre-stress are unique alchemy of our craft. New patented 3-Force system is example of our never-ending effort in „engineered for climbing“.

#### → Tensioned heel-band

Pre-stressed heel band provides firmer fixation of the heel and adequate pressure in the toe direction. Optimum tension of this shoe part is constructively defined. Pre-stressed heel band is made of special DURARAND rubber, which has optimum parameters for transference of forces.

#### → Perforated heel

Thanks to the perforation, the heel part gets better shape-flexibility and higher friction for heel-climbing techniques. For these purposes, the heel part is made of very flexible, high-friction rubber STICKYRAND.

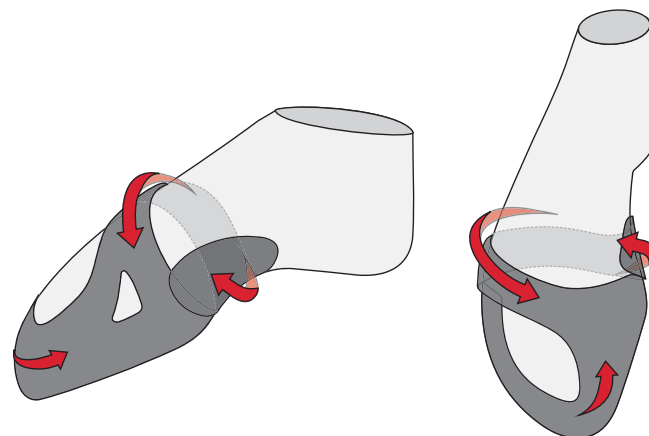
#### → Rubber patch for toe hooking

In the area of toe joints, especially big-toe area is the upper material protected by smaller piece of special rubber foil in thickness 0,9 mm. This rubber foil is produced from special sticky compound. This construction protects the climbing shoe upper and enables tip of the shoe to transfer forces better into toe-hooking in overhang or technically demanding routes.



**3-FORCE PATENTED SYSTEM**

Original solution by Rock Pillars from 1994 enables to use rubber foil in the construction of front toe-box. It was improved by our new 3-Force system. 3-Force uses connection of 3 points which enabled controlled inner force distribution in order to maintain better torsion stability. Inner rand rubber in the place of big toe stabilizes standing on edge and protects the big toe while toe-hooking, it continues in periphery of toe-joints to outer edge. In this way it stabilizes this periphery and with slight tension it circuits inner foot arch where is in the space of big toe's joint fixed in a way of perforated ending tongue. This support softly this joint and prevents from horizontal movement from the tip-toe.



**Final effect can be described as 3-Force patented system**

- Stabilizes inner edge while standing on small edges by force contra-reaction from inner foot arch.
- Stabilizes front part of the slipper construction in the area of toe joints.
- Stabilizes big-toe position from horizontal movement from the tip-toe.

## FRICITION THEORY AND CLIMBING FORCES TRANSFERENCE

FRICITION APPLIES TO TWO SMOOTH PARALLEL MATERIALS SLIDING AGAINST ONE ANOTHER. FRICITION DEPENDS ON THE TRUE CONTACT AREA OF THE TWO OBJECTS. IN CLIMBING, THERE ARE SEVERAL FACTORS THAT HAVE SOME IMPACT ON FRICITION.

→ **Weather**

**Temperature:** It affects physical parameters of the materials, the suitable conditions for best adhesion of rubber are temperatures between 5-15°C. Climbing shoe manufacturers design their shoe rubber to work best in a specific temperature range (0-5°C), below this temperature the rubber is harder and won't mould well to the shape of the rock and above this the rubber will be too soft and will deform too easily. This is why climbing shoes work best in the cold.

**Humidity:** Air humidity as well as humidity inside of the rock reduces rubber adhesion.

→ **Rock**

**Slopes:** Coefficient of friction is dependant on the angle of rock slope and that is why smaller rock slope secures higher friction.

**Surface structures:** Structure and rock surface texture have direct effect on friction. On grain structure are important shape and sharpness of the grain. Fine and sharp texture makes best condition for friction, on the other hand rough and smooth texture is less popular then in the contact place between rubber and rock will be less interfaced.

→ **Climber**

**Pressure:** Specific pressure caused by the climber on rock makes effectively the real interface between rubber and rock because this pressure causes rubber surface deformations which will increase the interface.

**Surface area:** The bigger the standing interface area is, the bigger the friction is. Correct foot technique as well as balance feeling have great effect on friction.

→ **Shoes**

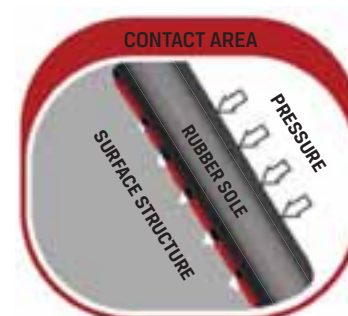
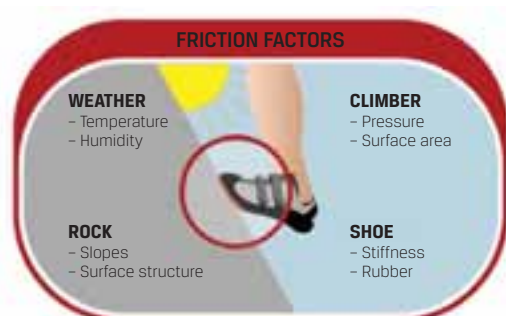
**Stiffness:** If the rock climbing sole construction is enough soft to make best surround of the rock surface, the bigger the interface area will be. But certain constructional stiffness is required as the shoe must secure standing on the small edges where stability plays its role.

**Rubber:** Climbing rubber with correct parameters is one big alchemy. Parameters are defined by various components. Rubber has to have correct hardness and adhesion but mainly correct viscoelastic parameters which enable penetration of the rubber into rock structure. Softness allows rubber to mesh with rock and its rough surface. Rubber needs to be soft to allow it mould to the rock but if it's too soft

the rubber will deform and slip. Softness of rubber also varies with temperature. Sticky rubber which gets easily penetrated by rock microstructure and is enough hard to transfer this enlarged interface area into friction, is the correct climbing rubber compound. And the rubber also determines resistance against wear which affects the lifetime of the shoe.

Development and parameters of rubber compounds are for the efficiency and sport results of climbing shoes same important as for Formula 1 cars. To maintain perfect force transference by friction during contact of climbing shoes with rock requires scientific research in the field of physical theory of friction and chemical development of new compounds. Rock Pillars has this development for more than 20 years. Science cannot be without real life and testing. We are working many years on constant improvement together with our specialized suppliers, such as Vibram and also laboratory developing compounds Grippin. For specialized rubber compounds which are used for climbing shoes, the physical features play always such a role for which the rubber is purposed.

## FRICITION FACTORS





→ **Vibram XS Grip**

Is the latest rubber compound from VIBRAM®, it is used on our performance and extreme models range. It is working stable on edges, slabs and pockets, delivering maximum friction in all temperatures. Softer compound aimed mainly on extreme sport climbing on overhang rock where every bite counts.



→ **Grippin Edge**

It was developed by our laboratory for maximum edging power, combination of friction and grip but still with great edging stability. Thanks to an improved resistance to plastic distortion, it keeps its shape even after hours of use. It was mixed for superior durability.



→ **Grippin DURA**

It was designed for extreme durability. This compound combines important features of friction, edging and stability. Due to balanced mixing of all we have come up with great rubber with universal features and long-lasting lifetime.

→ **Durand**

Is special rand rubber compound for rands and pre-stresses bands used for climbing shoes construction. Resistance to wear – durability, and elastic features important for force distribution were the main criteria in development of this compound. Recommended for rands where durability and constructional distribution of forces are needed.

→ **Stickyrand**

Is special high-friction rubber compound with reduced stiffness which is suitable for special use on climbing shoes where sensitivity and friction play their main role. This compound is used on heels and toe-boxes – those parts which are used for hooking. It is recommended for upper and rand parts where sensitivity and friction are preferred.

## LASTS AND ANATOMY

LAST GIVES THE CLIMBING SHOES SHAPE AND CORRECT VOLUME. DEVELOPMENT OF LASTS AND ITS MOLDING IS LONG-TERM EVOLUTION BASED ON DEEP KNOWLEDGE AND NEW INFORMATION SYNERGY, WHICH COME WITH DEVELOPMENT OF SPORT CLIMBING. IT IS A PRECISELY CONSTRUCTED CLIMBING SHOE WHAT SUPPORTS THE FOOT TO STAND ON THE ROCK PROPERLY AND HELPS TO REDUCE THE STRESS OF SOLE MUSCLES. DEVELOPERS OF CLIMBING SHOES HAVE TO BE EXPERTS IN FOOT ANATOMY BECAUSE EVERY TYPICAL FOOT SHAPE NEEDS A SUITABLE SHOE MODEL. TO CONNECT ANATOMICAL FEATURES AND CAPABILITIES OF FOOT WITH CLIMBING TECHNIQUE IS A MUST WHICH ROCK PILLARS FULFILL FOR MANY YEARS HAND IN HAND WITH CREATION OF NEW LASTS. ALSO REQUIREMENTS OF COMFORT AND RECREATIONAL CLIMBING MUST BE SATISFIED BY OUR LASTS. THAT IS WHY WE USE NOWADAYS 7 DIFFERENT LASTS WITH DIFFERENT CHARACTERS, WHICH SUIT DIFFERENT FEET AND DIFFERENT PERFORMANCE REQUIREMENTS.



→ **Excentric**

Very bent last with concave shape for support of pressed toes. It has extremely asymmetric shape with orientation on two front toes. Front is anatomically modeled for more stresses toes with enough space for all toes. Width of last is for normal to wide foot with anatomical medium heel. Last was constructed for peak performance in pre-stressed shoes.

**Climbing shoes:** Diamond



→ **Optimal**

Slightly bent last with medium asymmetry. Front is modeled for moderate stressed toes with enough space for all types of toes. Width of last is for normal to wide foot with large volume heel. This shape of last comes from study of majority foot shape with optimized parameters for performance climbing.

**Climbing shoes:** Top Gun LU, Top Gun QC, Stream



→ **Asymmetric**

Slightly bent last with radically shaped front, and concave shape for support of pressed toes. Very asymmetric shape with big-toe orientation. Front is anatomically modeled for more stressed toes. Width of last is for normal to wide foot with anatomical medium heel. Last was constructed for peak performance in over-hang routes.

**Climbing shoes:** Ozone QC, Ozone Slipper, Rebel LU, Rebel QC



→ **Basic**

Flat last with slight asymmetry. Front is mode-led for comfort of all toes while keeping technicality of shoes on high level. Width of last is for normal to wide foot with medium to large heel. Last was constructed as universal for all-round climbing purposes with respect to all needs for construction of high quality climbing shoes.

**Climbing shoes:** Strike LU, Strike QC, Summit LU, Summit QC, Rental LU, Rental QC



→ **Radical**

Bent last with radically shaped front, medium asymmetric. Front is constructed for mode-rate stressed toes with enough space for all toes. The last is suitable for normal to narrow foot with small volume heel. Last comes from study of feet of skinny, bony archetypes which frequently appear in performance climbing.

**Climbing shoes:** Pearl LU, Pearl Lady QC, Zeal



→ **Baby**

Flat last with slight asymmetry. Front is modeled for comfort of all toes while keeping technicality of shoes on high level. Width of last as well as heel correspond with orthopedic requirements of children shoes.

**Climbing shoes:** Hero LU, Hero QC



→ **Anatomic**

Medium bent last, medium asymmetric, constructed for moderate stressed toes in the tiptoe. Shape of the last is very anatomical, coming from long-term studies of the foot anatomy. Best for normal width of the foot and medium sized heel.

**Climbing shoes:** Zerocks

# SIZES AND OPTIMAL FIT

Correct choice of last, resp. climbing shoe model is not the only parameter in choosing a climbing shoe. Everyone has unique foot and relevant volume. Size choice is then determined by toughness of construction and our performance requirements. Generally we can say that optimal size for performance climbing is smaller than recreational or multi-pitch size. While working with recommended size charts it is necessary to know your standard walking shoe size and size of the foot in mm.

Correct transfer of sizes between individual size systems and recommendation of climbing shoe sizes are never-ending topics for discussions. We have realized this fact from the very beginning and that is why we have chosen Mondo Point system from the beginning for Rock Pillars climbing shoes. Whole collection is produced on lasts which are sized in metrical range. This has its great advantage as everybody has metrical device, pen

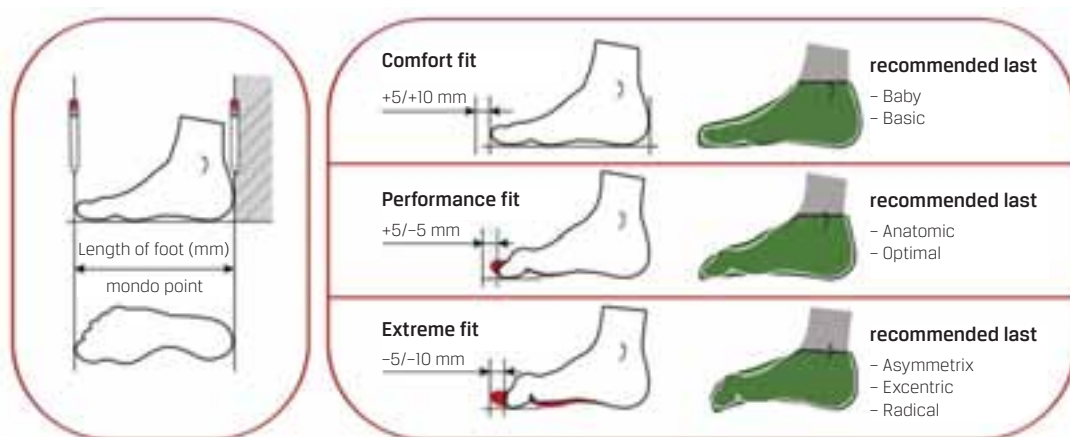
and paper and therefore easily figures out his/her foot-length. Length of the foot in mm is Mondo size. Standard marking of Rock Pillars climbing shoes than reflects sizes for PERFORMANCE FIT, meaning that sizes of lasts are already customized to performance climbing by which the bent position of big-toe is normal.

### Correct procedure while choosing the size

1. Measure foot-length
2. Choose how tight it should be according to performance (Comfort, Performance, Extreme)
3. Make size correction according to recommended chart

### → Example of how to choose Rock Pillars

Foot-length is 26,5 cm (alternative transfer to UK is  $2+6+0,5-1 = 7,5$  UK) 265 mm or 7,5 UK is recommended size as per our chart (see chart) which will ensure Performance Fit by Rock Pillars climbing shoes. When you prefer more comfort which resembles Comfort Fit, choose climbing shoes 5 to 10 mm larger. This transfers to 0,5 UK, resp. 1,0 UK size. In our case 8 to 8,5 UK. This size corresponds to our regular walking or trekking shoes. In case you are looking for extreme difficulty and very short climbs, your choice of size will be 0,5 to 1,0 UK smaller. Thus 6,5 to 7 UK. Extreme Fit could be, especially in newly bought shoes, quite painful and in case of wide feet it is not suitable. Using this size also puts great demand on materials and could end in early damage or even tearing of the shoes.

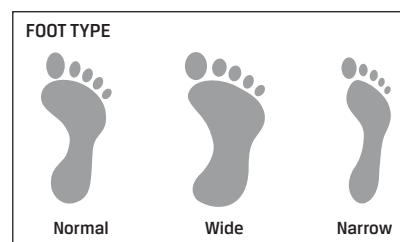
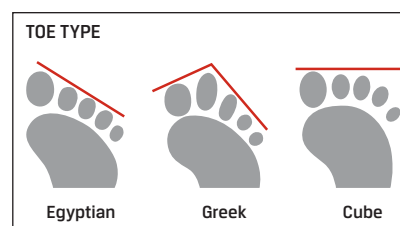


### CONVERSION TABLE (all shoes are produced in metric scale)

mm	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325
UK	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10	10 1/2	11	11 1/2	12	13	14	15
EUR	35	36	37	37 1/2	38	38 1/2	39	40	41	41 1/2	42	42 1/2	43	44	45	45 1/2	46	46 1/2	47	48	49	50

### TABLE WITH TOE- AND FOOT TYPES

Rock Pillars model	Last	Toe type			Foot type		
		Egyptian	Greek	Cube	Normal	Wide	Narrow
Diamond	Excentric	●	●	○	●	○	●
Ozone QC	Asymmetrix	●	○	○	●	○	●
Ozone Slipper	Asymmetrix	●	○	○	●	○	●
Top Gun LU	Optimal	●	●	●	●	●	○
Top Gun QC	Optimal	●	●	●	●	●	○
Pearl Lady QC	Radical	●	○	○	○	○	●
Pearl LU	Radical	●	●	○	●	○	●
Rebel LU	Asymmetrix	●	●	○	●	○	○
Rebel QC	Asymmetrix	●	●	○	●	○	○
Zerocks	Anatomic	●	○	○	●	○	●
Stream	Optimal	●	●	○	●	○	○
Zeal	Radical	●	●	○	●	○	●
Strike LU	Basic	○	●	●	●	●	○
Strike QC	Basic	○	●	●	●	●	○
Summit LU	Basic	●	●	●	●	●	○
Summit QC	Basic	●	●	●	●	●	○
Rental LU	Basic	○	●	●	●	●	○
Rental QC	Basic	○	●	●	●	●	○
Hero LU	Baby	●	●	●	●	●	●
Hero QC	Baby	●	●	●	●	●	●



- suitable
- less suitable
- unsuitable

## CLIMBING ACTIVITIES

THERE ARE SEVERAL DIFFERENT DISCIPLINES AND EVERY DISCIPLINE HAS DIFFERENT REQUIREMENTS FOR FUNCTIONAL QUALITIES OF THE SHOE.

### → Rock climbing

In general, the quality of rock climbing shoe depends on its construction and rubber. Rock climbing offers quite a wide range of climbing terrains. There are slopers, holes, edges, slabs, and cracks and of course several kinds of rock with various difficulty. To make one universal shoe usable for rock climbing as such would not be possible without some compromise. That is why we produce several models also with different anatomic features. Some shoes may be better for holes, edges and the tiniest foot holds and some for slabs and friction.

### → Indoor climbing

Qualities of a shoe for indoor climbing depend mostly on performance level of the climber himself.

Beginners need to have a comfortable shoe with the stress on its durability. It is not that simple to classify shoe for advanced climbers, there are many individual aspects to be taken into consideration. In principle, who wears climbing shoes just for one route, prefers quick closure system and can wear shoes very tight. Real sport climbers need extremely tight fit of the shoe and great stability on edges, small footholds are important for difficult competition routes.

### → Bouldering

In bouldering depends on millimeter stepping precision, body loading and balance in order to solve a bouldering problem. The shoe has to be very stable and sticky on the tiniest footholds, edges or slabs. The shoe must not twist from the

foothold and needs to have a tight fit with a great sensibility in the tip-toe. The climber needs also a shoe workable for heel- and toe-hooks. Only a perfect construction and high quality rubber make a real shoe for bouldering.

### → Multi-pitch climbing

The shoe suitable for multi-pitch climbing with several rope lengths should be comfortable, stable on holds and lace-up system is preferred. For more difficult routes, tight fit and edge-stable shoes are important. Then the tight fit with quick closure system is better, but climbers need to take the shoes off while staying on belay point. Those who want to compromise have to either lose some precision and choose more comfortable shoe or to stand some pain.

## CLIMBING TECHNIQUES

AS WE ALREADY MENTIONED IN THE PREVIOUS TEXT, THERE ARE NOT ONLY SEVERAL DIFFERENT CLIMBING DISCIPLINES, BUT ALSO NUMBER OF DIFFERENT CLIMBING TECHNIQUES, WHICH REQUIRES A SPECIAL FOOTWORK. EVERY CLIMBING TECHNIQUE BENEFITS FROM THE SPECIFIC FEATURES OF A CLIMBING SHOE. WELL DONE SHOE IS A MIGHTY WEAPON FOR FIGHTING GRAVITY. WITH A RIGHT SHOE, A CLIMBER HAS CHANCE TO PUSH HIS LIMITS FURTHER. IN ROCK PILLARS PRODUCT RANGE, YOU FIND THE RIGHT MODEL FOR EVERY PURPOSE.

### → Pockets

In the smallest pockets, there is often only enough space for the tip-toes, sometimes the pressure can be increased by raising the heel. Shoes which are strongly asymmetrical, pre-tensioned and with downturned toe bring the best performance in pockets.

### → Edges

On edges the inner or the outer side of tip-toe is used to step onto the foothold. It would be unfavourable, when a soft shoe would twist around the foot and rotate from the foothold. A firm shoe with a stable midsole but sensible enough makes the transfer of energy much easier.

### → Slabs

Slabs have minimum edges or any kind of small footholds, just subtle dents and waves. On slabs climbing, the heel is rather low and good movement in the ankle joint is needed. It is friction what makes it possible to keep the position of the foot. The climber stands on the rock with the whole front part of the sole. The right shoe for slabs climbing should have flexible midsole, good sticky rubber and must be sensitive enough.

### → Cracks

Wedgeing the foot sideways in the crack or jamming across the crack, this is the way to increase friction so that the shoe holds. Climbing cracks in too soft shoes hurts. Solid leather with lining and raised rubber rand increases durability of the shoe and improves its comfort.

### → Heel hooks

This kind of movement helps climber to pull himself over a steep piece of terrain like overhang, or to get balance or to take a rest. The heel can be hooked on ledges, pockets, around corners. Raised heel rubber protects the leather and adds the necessary friction, while a tensioned heel prevents the shoe from pulling off. The construction of the heel is important to make the heelhooks functional. There should be not too much and ideally no free space in the heel cup.

### → Toe hooks

Toe hooks are even more refined than a heel hook and helpful in overhangs. Reinforced rubber toe-box cover is really practical here, because it increases friction and of course protects the leather.

## THE CLOSURE SYSTEM

SYSTEM OF SHOE CLOSURE IS VERY IMPORTANT CONSTRUCTION POINT. IT INFLUENCES BOTH COMFORT AND OVERALL STABILITY OF THE UPPER PART OF FOOT. OFTEN IT INFLUENCES ALSO TECHNIQUE OF CLIMBING.



### → Lace-up (LU)

Though the lace-up system may seem to someone to be less comfortable, it is a good choice for those, who have not a typical foot shape. The lace-up system helps to make the shoe really close-fitting. The classic LU system maybe less practical, but when carefully laced, the shoe should not have to be re-laced.



### → Quick lace-up (LU)

Quick LU means that the laces run through leather channels and can be adjusted just with a single pull.



### → Quick closure (QC)

The quick closure solution with velcro stripes guarantees comfort and fast and easy fixation of the foot. It is practical especially for training when the climber needs to put the shoe on and off constantly.



### → Slipper

The slipper shoes are fitted with high quality elastic in the instep part. The slipper is ideal for climbers who do not want to bother with any kind of lacing. Nevertheless, a slipper shoe cannot be adjusted.

WHICH SHOE IS THE RIGHT ONE?		Bouldering	Rock climbing	Multi-pitch	Indoor
Diamond 		••	•••		••
Ozone QC 		•••	•••		•••
Ozone Slipper 		•••	••		•••
Top Gun LU 		••	•••	•	••
Top Gun QC 		•••	••	••	•••
Pearl Lady QC 		••	•••		•••
Pearl LU 		•	••		•••
Rebel LU 		••	•••		••
Rebel QC 		•••	••		•••
Zerocks 		••	•••	••	••
Stream 			••	••	••
Zeal 			••	••	•
Strike LU 		•	••	•••	••
Strike QC 		•	•	•••	•••
Summit LU 			•	•••	••
Summit QC 			•	•••	••
Rental LU 					•••
Rental QC 					•••
Hero LU 			•		••
Hero QC 			•		••

Slabs	Pockets	Cracks	Edges	Heelhooks	Toe hooks
•	•••	•	•••	•••	••
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Beginner	Intermediate	Performance	High performance
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