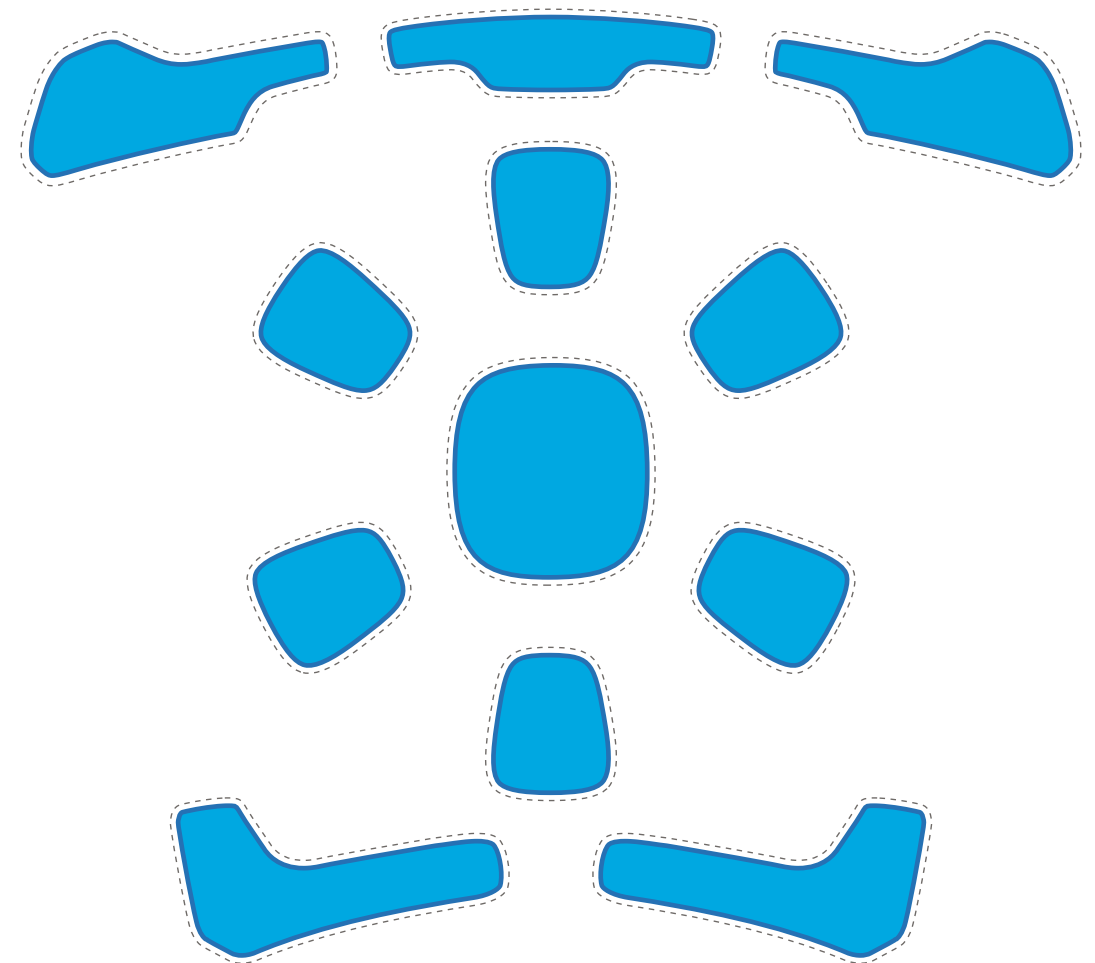


NEW
17/18

POC **SPIN**

Rotational impact protection is necessary to counter the forces involved in oblique impacts, which are a common cause of head injury. SPIN pads are integrated inside a helmet and add an extra layer of rotational impact protection by shearing in any direction, allowing the head to move relative to the helmet, reducing the force transmitted to the brain.



NEW
17/18



Auric Cut Backcountry SPIN

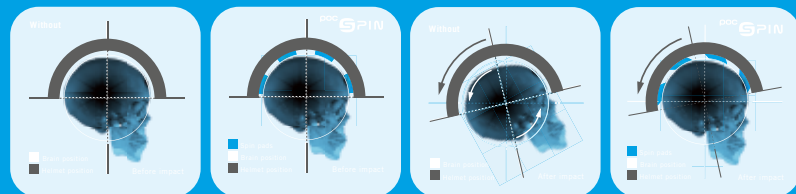
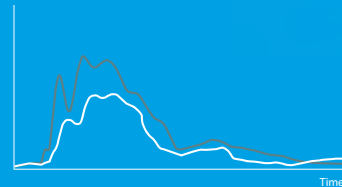
The Auric Cut Backcountry SPIN sets a new standard for on and off piste safety for ski and snowboarders. Featuring POC's patent pending rotational impact protection system, SPIN, the internal shearing pads will reduce the effects of an oblique fall by reducing the amount of force transmitted to the head and brain. The helmet also includes an advanced multi impact EPP liner which can withstand repetitive impacts and a very robust ABS shell, which supports anti penetration protection and ensures helmet strength and integrity. The helmet also features an integrated Recco reflector which will support being searchable in the backcountry.

Learn more pages 34.

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POC's patent pending rotational impact protection system, SPIN (Shearing Pad Inside), is an evolution in head and brain protection. Through the use of innovative and unique pads inside a helmet it is possible to reduce the amount of force transmitted to a user's head and brain in the event of an oblique impact.

The most common type of fall results in an angled, or oblique, impact with the ground or object which can lead to a rotation of the helmet and head. Research has shown that compared to a direct, or linear, fall the force required to cause serious head injury from an oblique impact is often much lower.

To counter this common impact scenario we created SPIN pads, which are an evolution on nature's own design and use an innovative pad technology and design.

SPIN pads are optimized to provide rotational impact protection based on the precise location inside the helmet and by using various pad technologies which can shear in any direction. The aim is to minimize the effects of an oblique fall by allowing the helmet to move relative to the head.

The human body has evolved and developed a variety of protective systems, the best known being cerebrospinal fluid, which cushions the head and brain during any fall. Placed inside a helmet directly against a user's head, SPIN pads are able to deflect crash energy in any direction through shearing and reduce the force transmitted to the brain.

Our mission, 'to do the best we can to possibly save lives and to reduce the consequences of accidents for gravity sports athletes and cyclists' naturally directed us towards oblique and rotational impacts which required a new way of supporting user safety.

To maximize safety and reduce the rotational impact forces involved in an oblique fall other helmet details, design and materials need consideration, and which offer several layers of protection during a fall.

Helmets should initially be able to slide on impact, reducing the amount of friction and energy, which could otherwise continue through to the brain. This ability to slide is directly related to the design and shape of the helmet and the quality of the shell material used.

The shell acts as the first layer of protection, followed by the liner which is the core of a helmet and with the right materials will absorb a large amount of the shock and energy that would otherwise make its way through to the head.

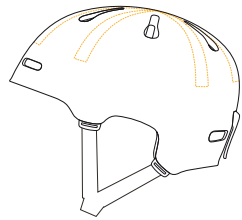
Without SPIN pads the remaining rotational impact energy would require nature's impact defense system, Cerebrospinal fluid, to react. However, by using SPIN pads another layer of protection is introduced as SPIN pads are able to shear in any direction and reduce the energy and force transmitted to the head.

POC helmet technologies, designs and innovations have received numerous awards in recent years and we never compromise on choosing materials, safety, quality or performance. Through our own POC Lab and vast experience we have come up with different helmet concepts, for several different needs with new ideas and innovative solutions on how to reduce the force transmitted to the brain.

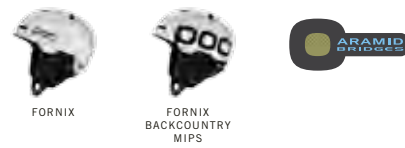
POC's patent pending rotational impact protection system, SPIN (Shearing Pad Inside) is a new innovation to support our mission and represents an evolution in head and brain protection.

POC Helmet Concepts & Technologies

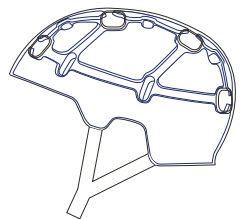
ARAMID BRIDGES



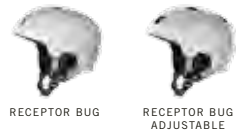
By molding aramid bridges to the core of the helmet, the impact forces are spread over a larger surface. At the same time the helmet gains structural stability through the bonding of the unbreakable aramid weave and the EPS liner, which allows for a very lightweight helmet with a high level of protection.



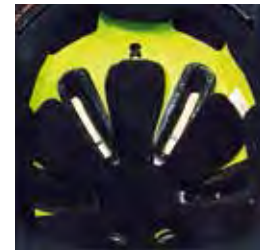
VDSAP



POC's patented VDSAP system (Ventilated Double Shell Anti-Penetration) is built on two ventilated shells that are placed offset for maximum protection against penetration from sharp objects, while maintaining good airflow and ventilation. The safety performance of this construction is unparalleled and represents a unique take on helmet design.



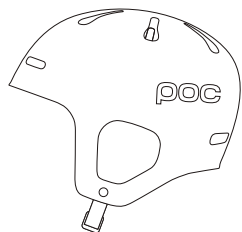
MIPS



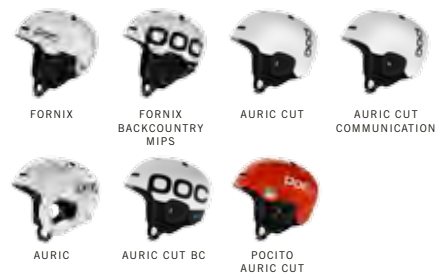
MIPS stands for **Multi-directional Impact Protection System** and is used to reduce the rotational forces to the brain in the case of an oblique impact. A normal helmet is created to absorb vertical impacts very efficiently, but is not as good at the rotational forces. When subjected to an oblique impact, the MIPS system absorbs these forces by allowing a small rotation of the outer shell relative to the liner.
MIPS allows a small rotation of the shell relative to the liner and thereby reduces the rotational energy transmitted to the brain on impact.



SUPER VENTILATED HELMETS



By studying the airflow inside the helmets, POC has been able to create super ventilated helmets with adjustable and optimized ventilation depending on the conditions. The combination of goggle vents, chimney vents, VDSAP and adjustable vents makes the helmets very ventilated, with a maintained low weight and a high level of protection.



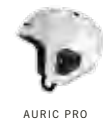
MULTI-IMPACT HELMETS

Most helmets today have liners made of EPS (Expanded Polystyrene), a great shock absorbing material, but it will be permanently compressed when absorbing an impact, even a minor one. Using multi-impact EPP (Expanded Polypropylene) as core material creates a helmet that will protect your head over and over again.



MULTI IMPACT WITH INTERIOR VPD 2.0 POCKETS

To provide accurate protection for park and pipe riders who commonly have repetitive impacts we developed a liner with pockets of VPD 2.0 integrated within the EPP liner. The VPD 2.0 absorbs low to mid energy impacts and for high energy impacts the EPP takes over. The combination of these two materials provides protection against repeated low to medium energy impacts, as well as in full on crashes. The Auric PRO has been developed specifically with this user in mind.



MULTI-IMPACT DEFLECTOR PANEL

Through examining helmets used by World Cup alpine racers, we identified that they were worn out in the front due to repeated impacts from the gates. The violence was more severe than we had ever imagined and the discovery led us to developing the Multi-Impact Deflector Panel, featured in the new line of Skull Orbic helmets. Our deflector panels decrease the transmitted force of the impact, and increase the shock absorbing capacity of the helmets. This ensures that the helmet performance remains at the highest level when it's really needed: in a real crash. In the deflector panel of the Skull Orbic Comp SPIN, we integrated our patented VPD 2.0 that has extreme impact absorbing properties, proven for repeated impacts in our body armor collection. The Skull Orbic X SPIN deflector panel is made of multi-impact EPP material.



RECCO SEARCH AND RESCUE SYSTEM

Recco's two-part technology can search year-round for people equipped with Recco reflectors. The new Recco SAR 1 technology is based on Recco's renowned rescue system for people involved in avalanches. The system enables fast directional pinpointing of a person's precise location. Recco detectors send and receive a directional radar signal to locate a person wearing a Recco reflector.














The new Recco Helicopter Search and Rescue detector, SAR 1, has a substantially larger search area. The SAR 1 is flying at a speed of 130 km/h and can search approximately 200 meters wide search strips. Considerable areas of forests, mountain terrain, rivers and shores can therefore be searched in a very short time - 1 square kilometer in approximately 3-4 minutes.



POC Helmet Liner Overview



CATEGORIES (INNER CIRCLE)	TYPE OF LINER (SECOND CIRCLE)	VPD DEFLECTOR PANEL/INSERTS (THIRD CIRCLE)	ROTATIONAL FORCE (OUTER CIRCLE)
RACE  	EPP 	VPD INSERTS / DEFLECTOR PANEL 	SPIN 
FREE 	EPS 		MIPS 
PARK & PIPE 			
POCITO  			

POC has been at the forefront of helmet technology and has delivered a range of different helmet technologies and constructions: hard shell; in mold; aramid penetration barrier; double shells; aramid bridges - all of which have led to positive improvements in helmet performance and user safety.

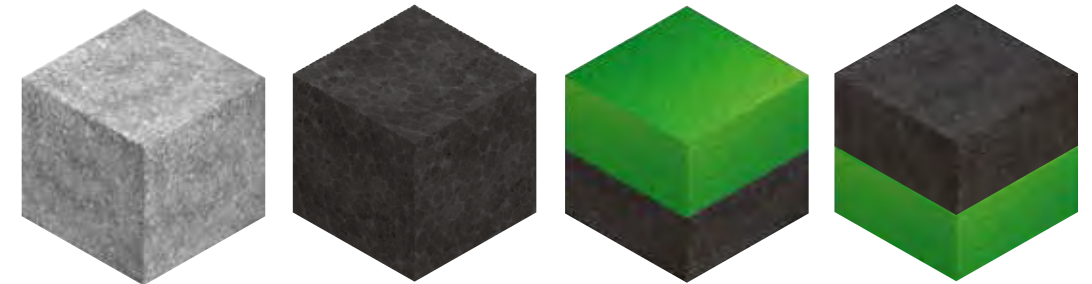
from the outside but what's on the inside makes a significant difference to their performance. POC helmet liners have been developed specifically with a particular user or activity in mind introducing a variety of innovations: different density and activation zones; deflector panels or progressive impact deformation.

Helmet construction and design still relies, however, on one crucial element which is often underestimated; the choice of liner. POC has researched and developed several unique helmet liners, all designed to provide optimal performance and with technology which allows helmets to be chosen on the unique needs of a user or activity.

Each POC helmet is designed to support its mission, 'to do the best we can to save lives and reduce the consequences of accidents', which is why each helmet undergoes vigorous testing, analysis and rider feedback, to ensure that every new liner technology developed leads to further improvements in safety and performance.

Helmets for children, park riders, slalom racers or the casual weekend skier may look similar

POC liner technologies



EPS liner
Expanded Polystyrene (EPS) is a trusted and established technology which is highly suited to in mold constructions and provides a great base for many different shell technologies. The strength of EPS lies in its versatility and protection against single impact accidents.

- POCITO FORNIX
- RECEPTOR BUG
- RECEPTOR BUG ADJ.
- FORNIX
- FORNIX BACKCOUNTRY

Multi Impact EPP liner
Expanded Polypropylene (EPP) shares many of the positive features of EPS but has one major difference; it does not deform permanently on impact. The ability for EPP to withstand multiple impacts with a very limited loss of performance ensures that it is well suited liner for activities where frequent, smaller falls may be common.

- SKULL ORBIC X SPIN
- SKULL X
- POCITO SKULL
- POCITO SKULL LIGHT
- POCITO AURIC CUT SPIN
- AURIC CUT BACKCOUNTRY SPIN
- AURIC CUT
- AURIC

Multi Impact EPP liner with VPD 2.0 deflector panel
Helmets with an Expanded Polypropylene (EPP) liner and visco-elastic polymer dough (VPD) layer have been developed specifically for the needs of ski racers. To minimise the force and impact to a skier's head from repeatedly hitting gates the liner uses the protection and absorption properties of a VPD 2.0 layer with aramid reinforcement. The EPP liner also provides maximum impact protection in case of a significant fall and both VPD and EPP have been designed for multi impact protection.

- SKULL ORBIC COMP SPIN
- ARTIC SL SPIN

Multi Impact EPP liner with VPD 2.0 interior pockets
To provide accurate protection for park riders, who commonly are exposed to repetitive impacts, POC developed a liner with a layer of VPD 2.0 integrated within the EPP. The VPD 2.0 sits close to the skull, giving better low impact protection and deformation. The EPP layer is stiffer and protects against more significant falls. Designed to work together the EPP and VPD 2.0 liner provides the precise amount of progressive deformation and protection for park riders who frequently are exposed to both high and low energy falls.

- AURIC PRO