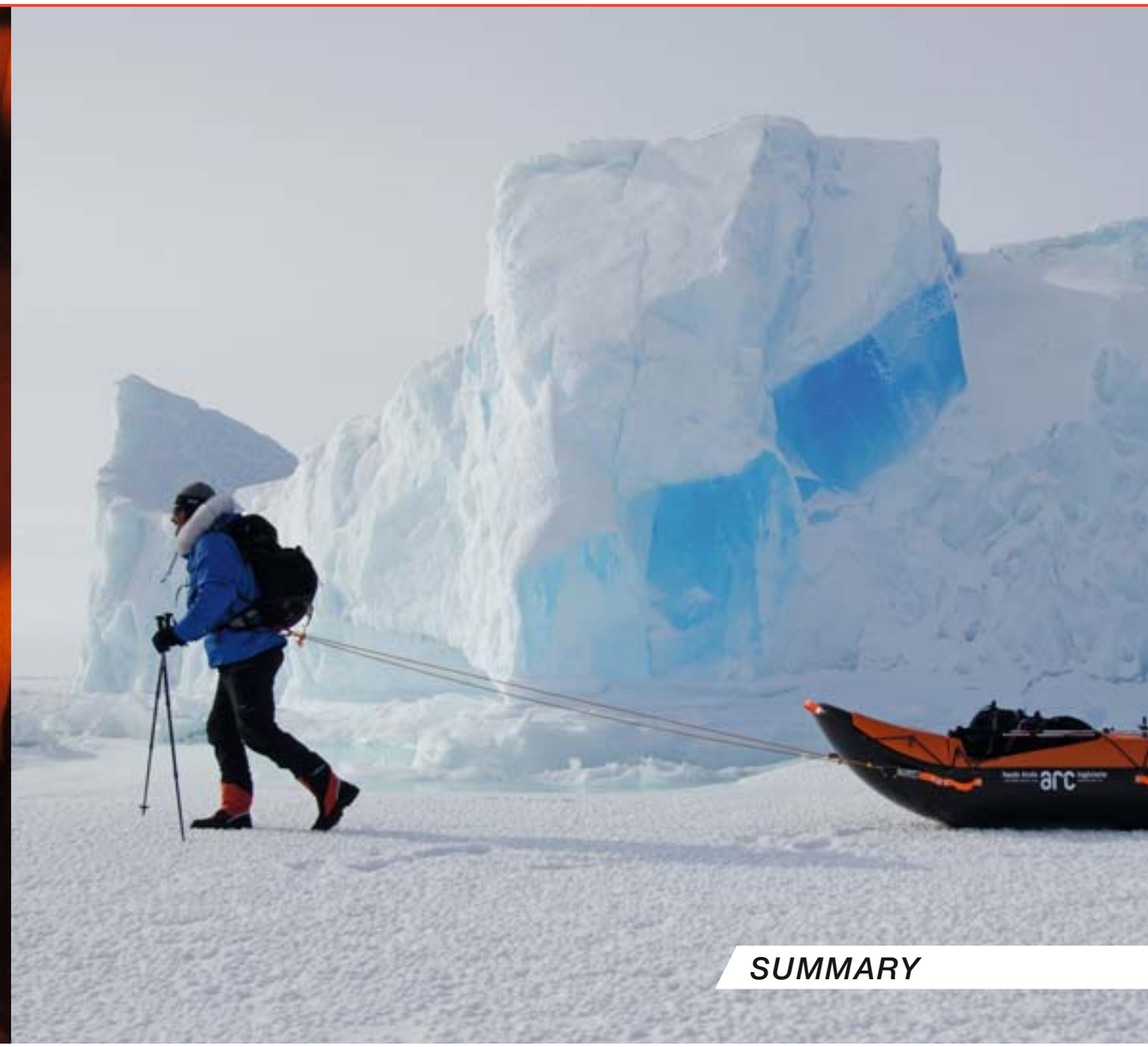
HECKEL

EQUIPEMENT POUR L´EXTREME

ULTIMATE PERFORMANCE // NEW PRODUCTS 2012 /

EQUIPEMENT POUR L'EXTREME



SUMMARY

Heckel Sécurité based in La Walck, France, has been one of the world leaders in the manufacture of safety footwear since 1970. The company's specialised expertise lie in processing rubber for use in new sole technologies with cutting-edge methods. When tough demands are placed on the materials and the user, the quality of our products will withstand the most extreme conditions.

Heckel are part of the uvex group and manufacture and sell peronal protective equipment (PPE) for extreme applications worldwide under the Heckel brand. First and foremost for:

Performance sectors
- Extreme hot environments
- Extreme cold environments
- Heavy-duty industry

Allround sectors
- Light industry
- Construction
- Services

Our brand strategy for the Heckel range confirms our intention to achieve market leadership in personal protective equipment for extreme applications.

THE RUBBER TECHNOLOGY MACsole®

Rubber is prized by many for its exceptional properties: grip, durability, elasticity, resistance to abrasion, and resistance to extreme temperatures and harsh substances.

Building on its many years of experience, Heckel Sécurité has developed revolutionary new types of rubber as part of the MACsole® brand.

DURABILITY

MACsole® soles are made of unique, exclusive compounds offering unequalled abrasion resistance prolonging the active life of our products.

GRIP

Our exclusive MACsole® rubber formula offers unrivalled grip, far exceeding the requirements of EN 13287.

THERMAL INSULATION

The exceptional strength of rubber at extreme temperatures, combined with exclusive Thermoshield Xtrem technology, ensures unparalleled thermal insulation against heat (plantar burns) and cold.

SHOCK ABSORPTION

The unique and exclusive rubber material used to make each MACsole® style provides very high shock absorption qualities.
The natural elastic properties of rubber ensure long-lasting shock absorption. MACsole® footwear helps to reduce the risk of accidents by reducing fatigue caused by prolonged walking or standing.

MACsole® EXTREM 2.0

Heavy industry, chemical industry: wherever risks are high, environments harsh or conditions extreme, MACsole® EXTREM 2.0 rubber sole technology is the best-performing solution. Due to the MACsole® rubber sole technology, all models cope with any risk without compromising on comfort. Exceptional grip, resistance to extreme temperatures, resistance to aggressive chemicals and shock protection come as standard.

MACsole® ADVENTURE

The MACsole® ADVENTURE range of completely metal-free products is ideally suited to people who work outdoors, crafts people or anyone looking for an authentic outdoor design. Its deep treads, reinforced sides and stable ankle support system make the range ideal for work in difficult conditions.

MACsole® SPORT

The MACsole® SPORT range is intended for all those working in light industry, automobile industry and service industries. Outstanding grip, extremely lightweight (one shoe weighs less than 550 g) and with excellent breathability. The design and engineering teams have been driven by these key concepts during the development of the MACsole® SPORT range.

MACsole® PLUS

Due to the MACsole® rubber technology, the MACsole® PLUS set of products makes it ideal for a multitude of applications and extreme durability. Technical performance, the various comfort features and price make the MACsole® PLUS range highly competitive.

MAC sole EXTREM 2.0

ULTIMATE PERFORMANCE

ASYMMETRIC SCUFF CAP

Heckel conducted an annual survey about safety footwear which clearly showed (in more than 95% of cases) that the area most exposed to wear at the front of the shoe is on the inside of the scuff cap.
Based on this result, Heckel's R&D Department decided to create an asymmetric scuff cap to protect the areas most vulnerable to wear.
Our rubber MACsole® ensures extreme strength.

NEW MACSOLE® EXTREM 2.0 SOLE

SOLE GEOMETRY

- Broad support surfaces
- Self-cleaning profile due to wide channels
- Deep treats
- Pronounced heel
- GRIPSTEP profile for ladders and stairs
- MICROGRIP technology on winter models

SPECIAL RUBBER COMPOUND

- Three rubber mixtures to suit different working environments, with colour recognition system
  - Red: extreme heat conditions in excess of 300 °C (i.e. beyond HRO standards)
  - Black: 'standard' conditions, from -20 °C to +300 °C
  - Blue: softer rubber for extreme cold conditions below -20 °C
- High abrasion resistance
- Resistant to chemical products, oils, hydrocarbons
- Anti-static

BIOMECHANIC

HEEL AREA:

- The rounded heel increases the amount of contact with the ground as the foot strikes giving greater comfort, stability and slip resistance
- The rounded shape helps spread the impact experienced when walking
- The whole heel area is specifically designed to absorb shock reducing the amount of fatigue on the body

TRANSITION AREA:

Additional shank support guarantees greater stability
Design and Composition is the core of the MACsole® EXTREM 2.0 sole

TOE AREA:

- The MACsole® EXTREM 2.0's lifted toe spring aids walking by improving the weight translation in line with the body's natural movement
- The soles are extremely supple giving more contact with the ground and offering better grip and therefore slip resistance

MACSOLE®
THERMO CONTROL SYSTEM

3D-DISTANCE-MESH LINING

- 3D structure absorbs perspiration fast allowing the feet to breathe, keeping them dry
- Fast-drying
- Increased durability

XTREME THERMOSHIELD

- High-performance thermal insulation
- Breathable textile surface
- All-round anatomical support for extreme stability
- Shock absorber for walking comfort
- Anti-static

PERFOSAFE PRO PENETRATION RESISTANT MIDSOLE

- Cold and heat resistant
- Provides optimum levels of safety by meeting the new requirements of Norm EN12568:2010 10
- 100% non-magnetic
- Highly flexible, reduces fatigue when walking
- Covers 100% of the footbed

HPC 200 TOE CAP

- Cold and heat resistant
- New 100% non-magnetic HPC cap 200 joule composite
- Provides a wide fitting
- Extremely comfortable
- 20% lighter than steel toecaps

MACSOLE®
FIT CONTROL SYSTEM

HEEL CAP

The high-resistant heel cap considerably increases stability and offers improved protection from ankle twisting.

ANATOMICAL FOOTBED SHAPE

New anatomic MACsole® sole with wide fit.

ANATOMICALLY SHAPED LASTS

Derby-cut lasts make putting on and removing the shoe easy and ensure the best fit.

ANATOMICAL INLAYSOLE

- Allround anatomical support for extreme stability
- Shock absorber for walking comfort
- Breathing textile liner
- High-performance thermal insulation
- Anti-static

HPC 200 TOE CAP

- New 100% non-magnetic HPC cap 200 joule composite
- Provides a wide fitting
- Extremely comfortable
- 20% lighter than steel toecaps
- Cold and heat resistant

MACFOREST

// **Sizes 36–48**
// **EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRC**
// **Art. no.: 6265001**

/ SECTORS

Foundry, steelworks, outdoor works, wet conditions.

/ TECHNICAL SPECIFICATION

***Sole**:* *MACsole® EXTREM 2.0 rubber sole, rubber overcap*

***Upper**:* *Full grain leather, NOMEX® threads, reflective elements, derby cut provides perfect fit to all types of foot, reduced number of seams increases comfort, padded tongue and collar*

***Lining**:* *3D-Distance-Mesh for excellent ventilation and quick drying*

***Toecap**:* *Metal free*

***Midsole**:* *Metal free*

***Inlaysole**:* *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber*

***Weight**:* *910g in size 42*

MACRANGER

New standard EN ISO 20349
More information page 24.

Tongue lined with fire resistant textile.

// **Sizes 36–48**
// **EN 20349**
// **Art. no.: 6265005**

/ SECTORS

Foundry, steelworks, welding, walking on very hot surfaces.

/ TECHNICAL SPECIFICATION

***Sole**:* *MACsole® EXTREM 2.0, rubber resistant to extreme heat (> 300°C), rubber overcap*

***Upper**:* *Full grain leather, NOMEX® threads, anti-spark tongue, velcro closure system, padded collar, tongue lined with fire resistant textile, elastic laces for fast release*

***Lining**:* *Leather*

***Toecap**:* *Metal free*

***Midsole**:* *Steel*

***Inlaysole**:* *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber*

***Weight**:* *950g in size 42*

MAC sole EXTREM 2.0

MACSILVER

// Sizes 36–48
// EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRC
// Art. no.: 6265001

/ SECTORS

Allroad extreme.

/ TECHNICAL SPECIFICATION

Sole: *MACsole® EXTREM 2.0 rubber sole, rubber scuff cap*

Upper: *Full grain leather, reflective elements, derby cut provides perfect fit to all types of foot, reduced number of seams increases comfort padded tongue and collar*

Lining: *3D-Distance-Mesh lining for excellent ventilation and quick drying*

Toecap: *Metal free, HPC 200*

Midsole: *Metal free, PERFOSAFE PRO*

Inlaysole: *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber*

Weight: *840g in size 42*

MACTREK GTX

· *Removable and adjustable for perfect fit*
· *Protection against falling objects*

// Sizes 36–48
// EN ISO 20345:2004 + A1:2007–S3 WR CI HI HRO SRC
// Art. no.: 6265009

/ SECTORS

Hardcore construction, wet conditions, mountain works, risks of falling objects.

/ TECHNICAL SPECIFICATION

Sole: *MACsole® EXTREM 2.0 rubber sole, rubber scuff cap*

Remark: *Possible to wear the product without the removable tongue*

Upper: *Full grain leather, reflective elements, removable tongue for perfect fit for all types of foot and additional protection, reduced number of seams increases comfort, padded collar*

Lining: *GORE-TEX®*

Toecap: *Metal free*

Midsole: *Metal free*

Inlaysole: *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture transportation system, shock absorber*

Weight: *920g in size 42*

MACFOREST ZIP

/ SECTORS

Oil and gas, off-shore, chemicals, wet conditions.

/ TECHNICAL SPECIFICATION

***Sole**:* *MACsole® EXTREM 2.0 rubber sole, rubber scuff cap*

***Upper**:* *Full grain leather, waterproof side zipper, reflective elements, derby cut provides perfect fit for all types of foot, reduced number of seams increases comfort, padded tongue and collar*

***Lining**:* *3D-Distance-Mesh lining for excellent ventilation and quick drying*

***Toecap**:* *Metal free*

***Midsole**:* *Metal free*

***Inlaysole**:* *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber*

***Weight**:* *900g in size 42*

// Sizes 36–48

// EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRC

// Art. no.: 6265002

MACDERRICK

/ SECTORS

Oil and gas, off-shore, chemicals, wet conditions, foundry, steel works.

/ TECHNICAL SPECIFICATION

***Sole**:* *MACsole® EXTREM 2.0 rubber sole, rubber scuff cap*

***Upper**:* *Full grain leather, reflective elements, NOMEX threads*

***Lining**:* *3D-Distance-Mesh lining for excellent ventilation and quick drying*

***Toecap**:* *Metal free*

***Midsole**:* *Metal free*

***Inlaysole**:* *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber, flex-zone*

***Weight**:* *940 g in size 42*

// Sizes 36–48

// EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRC

// Art. no.: 6265003

MAC sole EXTREM 2.0

MACSILVER INTEGRAL

Construction supporting easy kneeing

// Sizes 36–48

// EN ISO 20345:2004 + A1:2007–S3 M CI HI HRO SRC

// Art. no.: 6265008

/ SECTORS

Risks of objects falling on the metatarsus, risk of cuts from high pressure cleaners, steelworks, foundry.

/ TECHNICAL SPECIFICATION

Sole: *MACsole® EXTREM 2.0 rubber sole, rubber overcap*

Upper: *Full grain leather, reflective elements, derby cut provides perfect fit to all types of foot, reduced number of seams increases comfort, padded tongue and collar 100 joule metatarsal protection*

Lining: *3D-Distance-Mesh lining for excellent ventilation and quick drying*

Toecap: *Metal free*

Midsole: *Metal free*

Inlaysole: *Thermoshield Xtrem with thermal insulation, anatomical footbed, moisture absorption system, shock absorber, flex-zone*

Weight: *880g in size 42*

MACPOLAR

// Sizes 36–48

// EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRA

// Art. no.: 6269536

/ SECTORS

Extreme cold conditions.

/ TECHNICAL SPECIFICATION

Sole: *Extremely hard-wearing, abrasion-resistant MACsole® EXTREM rubber sole.*

Upper: *Liquid-resistant leather exterior and water-resistant gaiter system with waterproof, cold-resistant zip.*

Lining: *Polar-lining*

Toecap: *metal-free POLYCAP®*

Midsole: *metal-free PERFOSAFE®*

Inlaysole: *Heckel thermoshield insoles with Aspen Aerogels®. Aluminium in the toe and heel for greater insulation.*

Weight: *1100 g in size 42*

MACCROSSROAD BROWN

/ SECTORS

Working on rough ground and in wet environments (oil, water, etc.)

/ TECHNICAL SPECIFICATION

***Sole**:* *Good grip due to MACsole® ADVENTURE rubber sole – all-terrain sole with deep treads.*

***Upper**:* *Finest-quality leather upper prevents absorption of liquids.*

***Lining**:* *Breathable textile-mesh.*

***Toecap**:* *Metal-free.*

***Midsole**:* *Metal-free with PERFOSAFE.*

***Inlaysole**:* *CELL TECH: ergonomically shaped EVA insole to wick perspiration away effectively.*

***Weight**:* *730g in size 42*

// Sizes 36–48
// EN ISO 20345:2004 + A1:2007–S3 CI HI HRO SRC
// Art. no.: 6265502

POINT-OF-SALE EQUIPMENT

EN ISO 20349 STANDARD

European Norm EN ISO 20349 was introduced in December 2010. This new norm "Personal protective equipment – Footwear protecting against thermal risks and molten metal splashes as found in foundries and welding" expands on EN ISO 20345, which details the basic requirements for safety footwear that is intended for use in foundries, welding and similar industry.

In addition to other specifications, a new testing procedure which assesses resistance to the effects of molten metal has been introduced for footwear that is intended for use in foundries. The shoes are marked with Al if they have passed the test with molten aluminium and/or with Fe if they have passed the test with molten iron. All other EN ISO 20345 labels remain unchanged.

STANDARDS

- Manufacturer's identification mark
- Manufacturer's type designation
- Number of European standard
- Symbol for protection
- CE symbol
- Size
- Article number
- Date of manufacture

Footwear symbols for industrial usage

Basic requirements/additional requirements/ categories e.g. for leather shoes	Safety footwear EN ISO 20345 or EN 345-1	Protective footwear EN ISO 20346 or EN 346-1	Occupational footwear EN ISO 20347 or EN 347-1
Basic requirements for shoes and impact resistance of toecaps	SB 200 Joule	PB 100 Joule	OB No requirement
Additional requirements: Closed heel Anti-static Energy absorption around heel	S1	P1	O1 + fuel-resistant sole
Additional requirements: as above, plus Water penetration Water absorption	S2	P2	O2
Additional requirements: as above, plus Penetration resistance Cleated outsole	S3	P3	O3
Basic requirements/additional requirements/ categories e.g. for shoes made from PVC or PU			
Basic requirements for shoes and impact resistance of toecaps	SB 200 Joule	PB 100 Joule	OB No requirement
Additional requirements: Anti-static Energy absorption around heel	S4	P4	04
Penetration resistance Cleated outsole	S5	P5	O5

The choice of a particular shoe depends on the type of occupational risk. As with all the footwear, additional requirements may exist (e.g. in terms of heat and cold insulation, penetration resistance or electrical resistance via ESD). These shoes are then marked accordingly.

The testing principles for all basic and additional requirements are specified in DIN EN 344-1 / -2 and EN ISO 20344.

One of the three following requirements must be met and labelled in the shoe for all newly certified models from December 2007

Label	Characteristics tested	Test conditions	Friction coefficient
SRA	Slip resistance on ceramic tile floors with sodium lauryl sulfate solution (SLS)	Forward slip of the heel Forward slip on a flat surface	No less than 0.28 No less than 0.32
SRB	Slip resistance on steel floors with glycerol	Forward slip of the heel Forward slip on a flat surface	No less than 0.12 No less than 0.16 Up to 31/12/08
		Forward slip of the heel Forward slip on a flat surface	No less than 0.13 No less than 0.18 From 01/01/09
SRC	Slip resistance on ceramic tile floors with sodium lauryl sulfate solution and on steel floors with glycerol	Includes all test conditions cited under a. and b.	

Additional requirements for special applications with corresponding symbols

SYMBOLE	RISQUE COUVERT	EN ISO 20345:2004 or EN 345					EN ISO 20347 or EN 347			
		SB	S1	S2	S3	S5	OB	O1	O2	O3
–	Basic	■	■	■	■	■	■	■	■	■
P	Penetration resistance	■	■	□	■	■	■	■	□	■
A	Anti-static footwear	■	■	■	■	■	■	■	■	■
E	Energy absorption around heel	■	■	■	■	■	■	■	■	■
HI	Heat insulation	■	■	■	■	■	■	■	■	■
CI	Cold insulation	■	■	■	■	■	■	■	■	■
WRU	Water resistance of upper	■	□	■	■	□	■	□	■	■
HRO	Heat resistance of outsole (+300 °C/min)	■	■	■	■	■	■	■	■	■
WR	Whole shoe waterproof	■	■	■	■	□	■	■	■	■
M	Metatarsal protection	■	■	■	■	□	■	■	■	■
CR	Cut resistant	■	■	■	■	■	■	■	■	■

■ Meets the specified requirement

■ Requirement can be met but is not stipulated

HECKEL WORLD

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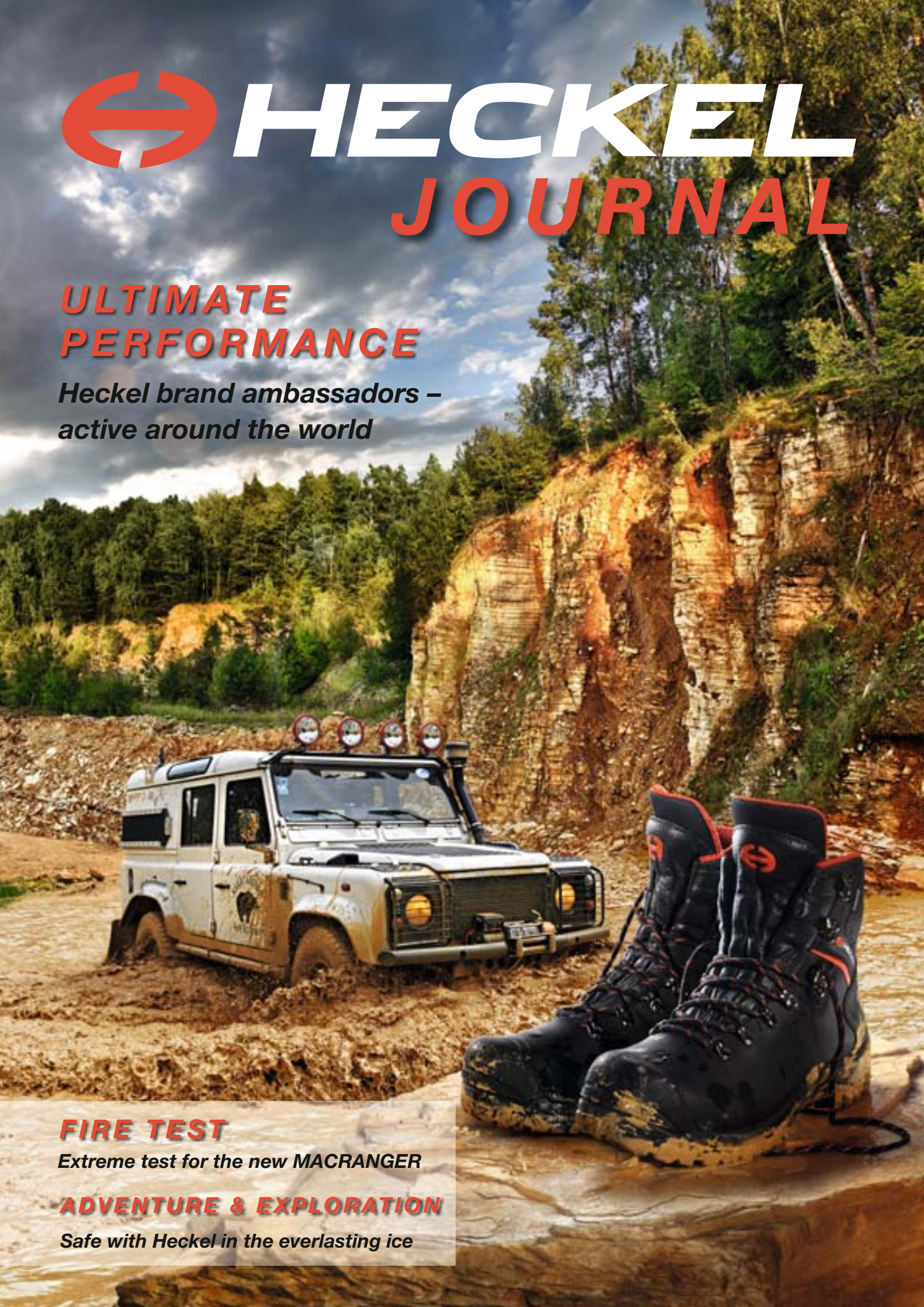
Are you interested in the complete Heckel safety footwear range?

Our general catalogue 2011 offers the full Heckel range at a glance.

Discover Heckel in action.
Please turn the catalogue and read the Heckel Journal.

HECKEL JOURNAL



ULTIMATE PERFORMANCE

Heckel brand ambassadors – active around the world

FIRE TEST

Extreme test for the new MACRANGER

ADVENTURE & EXPLORATION

Safe with Heckel in the everlasting ice

DEAR READERS,

This Heckel Journal is taking you on a journey – from France to the Antarctic via Mongolia and Greenland, where the Heckel safety footwear was tested under extreme conditions in all four elements of fire, earth, water and air.

The explorers and adventurers Stéphane Luchini, Nicolas Dubreuil and Frédéric Nomine carried out extraordinary achievements in these challenging environments. Every single day, our customers do the same in extremely tough working conditions, such as foundries. The thoughts of our brand ambassadors and customers provide us with important details, which we can incorporate in the development of our footwear in order to ensure its exceptional safety.

Even if you are not exposed to the elements to quite the same degree as polar explorers and aluminium founders yourself, you can still benefit from the technology that provides this level of safety in every pair of Heckel safety shoes.

Join us in discovering the parts of the world our safety shoes have endured and afterwards, you can explore the Heckel product world in the catalogue. We hope you enjoy reading and exploring the articles that lay ahead.

Best wishes
Heckel Sécurité s.a.s.
Management Board

Stéphane Nikonoff
Peter Eschenlohr

Stéphane Luchini (33) inspecting his helicopter.

OPERATING AT BURNING POINT

IN SUMMER, THE FOREST FIRES IN THE SOUTH OF FRANCE ARE QUICK TO BREAK OUT WITH FLAMES BURNING AT TEMPERATURES AROUND 1,300°C. THESE SITUATIONS REQUIRE THE SERVICES OF FIRE BRIGADE PILOTS, SUCH AS EXPEDITION SPECIALIST STÉPHANE LUCHINI. STÉPHANE PROVIDES A FIRST-HAND ACCOUNT FOR THE HECKEL JOURNAL.

6:35 am Preliminary operations meeting at the central station. Strong sea winds have been fuelling the fire and driving the flames towards residential areas.

7:00 am Time to leave. In addition to my regular helicopter inspection, I also check the motor of the extinguisher tank. We use salt water and consequently both the tank and pump are susceptible to corrosion.

7:30 am Over the sea. The strong winds not only make it harder to extinguish the flames, but they also increase the risks when collecting the water.

8:00 am First operation completed. I have now seen the full extent of the forest fire and it would be impossible to extinguish it from the ground. We have optimised our water collection process so that the extinguishing cycle is carried out even more quickly.

10:00 am First break of the day. Both the ground and the air near the fire are burning hot and it is very important that we have the right equipment. Footwear, especially, must be heat-resistant and insulated in order to provide protection when in contact with hot ground or steam.

10:30 am The first risky situation. The wind changed direction and pushed clouds of smoke towards me as I was emptying my water tank. For a moment, my visibility was almost zero. Fortunately, my Heckel shoes mean that I have the right amount of sensitivity in my feet that I can carry out the most complicated helicopter manoeuvres. This is the reason why I became a Heckel brand ambassador.

18:00 pm A long night ahead. The fire has not yet reached the edge of the village and in order to ensure that it stays that way we will continue flying – even if it gets dark.

- SOUTHERN FRANCE
- HIGH RISK OF FOREST FIRES
- TEMPERATURES UP TO 1,300°C
- STRONG WINDS, EXTREMELY HOT GROUND AND STEAM

EXTREME: FIRE TEST FOR THE NEW MACRANGER

FIRST AND FOREMOST, THE HECKEL MACRANGER IS FOR THOSE WHO WISH TO EXCEED THE STANDARDS. HECKEL SAFETY FOOTWEAR COMES INTO ITS OWN UNDER EXTREME CONDITIONS, OFFERING INSULATION AND COMFORT. THE NEW MACSOLE® EXTREM 2.0 SERIES IS THE BEGINNING OF A NEW GENERATION IN MACRANGER FOOTWEAR. SPECIALISTS OF THE LEADING STEEL AND ALUMINIUM MANUFACTURER CONSTELLIUM* CARRIED OUT TESTS ON THE NEW SAFETY PRODUCT AT MUCH HIGHER TEMPERATURES THAN ARE REQUIRED IN ACCORDANCE WITH THE STANDARD EN ISO 20345 HRO HI.

**PREVIOUSLY RIO TINTO ALCAN*

8

The MACRANGER in the MACsole® Extreme 2.0 series after the test.

- TESTING LABORATORY/FOUNDRY CONSTELLIUM, VOREPPE, FRANCE
- TEMPERATURE: ALMOST 800°C
- RISKS: SPRAY AND SPLASHES OF LIQUID ALUMINIUM

Test criteria: Three pairs of MACRANGER shoes in the MACsole® Extreme 2.0 series (image 1) are submerged in an aluminium bath at a temperature of 780°C for three seconds. In order to pass the test, no liquid metal must permeate into the safety shoe, the soles must remain firmly attached to the shoe, the seams must not break and the temperature inside the shoe must remain below 71°C.

Test preparation: To ensure the shoes do not explode in the liquid aluminium, they are heat dried for several hours at 110°C. Then, they are left to cool down to the room temperature. Thermosensitive strips, which show temperatures between 71 and 110°C, are attached to the sole and heel area on the inside of the shoes (image 2).

Test procedure: The thermometer reads nearly 780°C (image 3) on the liquid aluminium and the test can begin. Each shoe is attached to a graphite pole to be dipped into the liquid aluminium bath (image 4). The submersion time is three seconds (image 5), which, in the event of an accident with liquid, should be sufficient time to place the foot somewhere safe and remove the shoe.

Test results: Heckel's new MACsole® Extrem 2.0 series shoes passed the test. The shape of the all safety shoe models were only slightly affected (image 6) and with the thermocontrolling system, the inner temperature did not exceed 70°C in any of the shoes. The inner and outer sole were still in perfect working condition (image 7). The sole is made of the special MACsole® Extrem rubber mixture for extreme heat. The velcro fastenings, seams and tongues also held up very well because they have been manufactured and lined with the fireproof Nomex material. Although there was some damage, the aluminium did not penetrate the material (image 8, left). All in all: an impressive verification of Heckel's "EQUIPEMENT POUR L'EXTREME".

1 2 3 4 5 6 7

In many research expeditions, helicopters are the only connection to the nearest settlement or supply station. Stéphane Luchini is in the air for up to four hours every day, even during difficult weather conditions.

"I DREAMT OF ADVENTURE, MOUNTAINS AND ICE"

IN FRANCE, THE NAME STÉPHANE LUCHINI CONJURES UP IMAGES OF EXTREME ACTIVITIES. AS A FLIGHT SPECIALIST, HE HAS SUPPORTED MANY POLAR EXPEDITIONS AND HIS DESIRE FOR THE ANTARCTIC IS BY NO MEANS FULFILLED.

Stéphane Luchini (33) supports expeditions in the polar regions. He is an ambassador for the Heckel brand.

Heckel Journal: *You have been to the polar regions many times. Is there one expedition that stands out from the rest?*

Luchini: Yes, that was without doubt the "Generali Arctic Observer" expedition led by Jean-Louis Etienne in 2010, which unusually was one to the North Pole. He wanted to measure the thickness of the pack ice and crossed the Arctic in a Rozière balloon from Spitsbergen. I was with him during the preparation and collected him in a Russian MI-8 helicopter from his final destination in Siberia. The landscapes were quite simply breathtaking during the flight. It was an indescribable feeling.

Heckel Journal: *During your training, you once said that you "dreamt of adventures, mountains and ice". Your dream has become reality. What is life like when danger becomes a routine part of every day?*

Luchini: The Antarctic is my passion, but working there is never routine. I try to be prepared for every possible situation. Ultimately, I am not just responsible for myself, but also for the researchers that I am transporting. For example, the French Dumont d'Urville Station is on an island about one kilometre away from the Antarctic continent and everything has to be carried out by helicopter with me as the pilot. If my equipment lets me down, they will not have food, spare parts or rescue in an emergency.

Heckel Journal: *What do you have to be prepared for above all else?*

Luchini: There are fall winds, also known as katabatic winds, in the Antarctic which suddenly come in from the South Pole without any warning. Such winds push walls of snow making it almost impossible to see anything. This weather condition has been named "whiteout" and can very quickly become your downfall. On our first flight from the Astrolabe polar vessel, we lost a helicopter with four colleagues on board in such weather conditions. We had taken off ten minutes apart and after nearly 300 km we had to fly through a snow storm. It was not possible to turn around.

"The Antarctic is amazing and without doubt the most beautiful place in the world. But the weather is extremely unpredictable."

- POLAR REGIONS, PREDOMINATELY THE ANTARCTIC
- SUMMER: UP TO -20°C
- WINTER: -80°C
- RISKS: SNOW STORMS, WHITEOUTS, EXTREME COLD

“My Heckel MACPOLAR boots are warm, safe and comfortable. The comfort aspect is very important when you wear a pair of shoes for almost 12 hours per day.”

I think that interviews such as this help to keep the memory of my four colleagues alive.

Heckel Journal: *What do you do to protect yourself?*

Luchini: I always keep an eye on the weather and the horizon. That is about as much as you can do. Almost all of my flights take me above the pack ice border at the start of the season. Sea water only freezes at -1.8°C. As soon as the pack ice begins to melt, there is water between icebergs, so I often fly over water that is at a temperature of around -1.5°C – you could only survive in that for five minutes.

Stéphane Luchini wears Heckel safety boots at work and on his expeditions.

Heckel Journal: *You test Heckel safety footwear under extreme conditions. What do you look for in your choice of equipment?*

Luchini: My Heckel equipment combines many features that are essential for my work. Protection from extreme weather conditions is an absolute priority. Heckel’s MACPOLAR winter boots are exceptionally warm and comfortable, which is an important consideration when you are wearing shoes for almost 12 hours a day. The boots are also very flexible, so I can fly a helicopter or drive a car wearing them. Despite this, the Heckel MACPOLAR boots have all the features of traditional safety footwear. In fact, they once saved my toes when my foot was almost crushed by a snowcat.

HIGH-TECH RUBBER

AROUND 170 YEARS AGO, CHARLES GOODYEAR DEVELOPED THE VULCANISATION PROCESS FOR MAKING RUBBER MORE RESISTANT AND DURABLE. HIS WORK LAID THE FOUNDATIONS FOR THE SUCCESSFUL DEVELOPMENT OF RUBBER AS A PRODUCTION MATERIAL.

Caoutchouc is sticky, quickly loses its shape when warmed and is brittle in colder temperatures, but vulcanised rubber is elastic and can withstand (almost) anything. In the vulcanisation process, caoutchouc is heated and bound with sulphur, oxides or similar substances.

This process was discovered by a man who dedicated his life to vulcanisation: Charles Goodyear. In his quest to create a more stable form of rubber, he experimented with a range of materials and chemicals. It was not until he was almost 40 that he came across the solution of adding heat and sulphur when, by pure chance, a caoutchouc-sulphur mixture dropped onto a heating plate in his laboratory. The mass dried and remained permanently elastic and hard rubber was born.

Today, Goodyear’s vulcanisation process is so refined that highly specific properties of rubber can be produced: slip-resistance, durability, abrasion-resistance, chemical-resistance, high elasticity and temperature-resistance. Heckel’s unique MACsole® rubber sole technology is based on special production and manufacturing processes. It is multifunctional, withstands the most challenging working environments while still offering the highest wearer comfort.

An interesting fact: although the tyre company was named after Charles Goodyear, it was only established 38 years after his death.

Preparation of a MACsole® sole.

Attaching the sole to the shaft.

THROUGH WILD MONGOLIA

EXPEDITION ENTHUSIAST FRÉDÉRIC NOMINE HAS BEEN DOG SLEDDING THROUGH THE CHENTII MOUNTAINS IN NORTHERN MONGOLIA AND PUTTING THE HECKEL MACPOLAR WITH MACSOLE® TECHNOLOGY TO THE TEST.

Saturday, 12th February 2011

I set off for Mongolia, anticipating a strenuous trip since the flight to Moscow was delayed. I'm afraid this journey is going to be very long.

Sunday, 13th February 2011 – Terelj

I have finally arrived in the camp. Joël Rauzy was waiting for me. He has been a musher (dog sledder) for 20 years and has lived in Mongolia for the past 12. His pack is made up of 46 dogs. His Alaskan huskies and Greenland dogs can cope with temperatures as low as -40°C. It remains to be seen whether I'll be able to cope with those kinds of temperatures as well…

Monday, 14th February 2011 – Terelj – Bosgiin Guur

We have set off. I have barely slept since the beginning of my journey, but the adrenalin from the excitement and anticipation means I don't feel tired. The wilderness is never far away and the biting cold heightens the silence, it's a surreal atmosphere. The ice on the river Tuul is astonishingly changeable: one day it's blue and the next it'll be much darker, almost black. It creaks under the sled's runners. Water from the river seeps out through small cracks and runs over the sheets of ice.

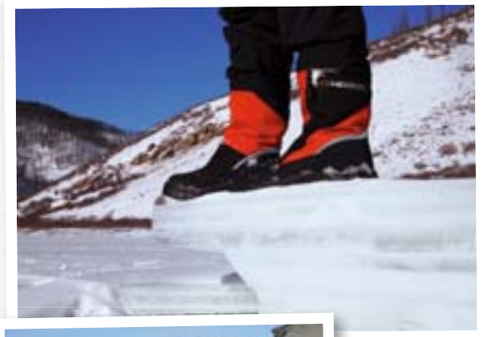
We are staying overnight in Bosgiin Guur, a small settlement of yurts comprising of several families. They are nomads who return to the same place each winter and spending time with them really is an unforgettable experience.

Tuesday, 15th February 2011 – Bosgiin Guur – Khar Us Nuur

Wolves were howling somewhere near us during the night and wolf tracks were found all around the camp this morning. We set off for Khar Us Nuur where currently four families live. I am surprised at the lightness of my boots. I'm barely aware that I'm wearing them most of the time, and my feet aren't freezing either. Tonight we are the guests of Tsodoo and his family. This will be the final night of Mongolian hospitality – tomorrow we will really be out in the wilderness.

Wednesday, 16th February 2011 – Khagiin – Urtin Bulag

The thermometer is reading -41°C. Today's leg was 55 km and our aim was to reach the Black Lake at Khagiin. Tsodoo accompanied us and transported materials for our camp with his packhorses. As the days go by, I come to appreciate that I'd be lost without my boots. Even though I don't have time to treat them, they are still completely impermeable.



Around lunchtime we reached the point at which the river Tuul and the river Khagiin meet. The landscape is getting ever wilder. This evening – 30km later – we arrived in Urtin Bulag to set up our camp. As we were completely reliant on ourselves, we had three hours of work ahead of us, which was not made easier by a bitter wind. Now we just need to chop some wood, feed the dogs and then it's off to bed. We might drink a toast to our success today first, though!

Thursday, 17th February 2011 – The Final Leg: Urtin Bulag – Khagiin Nur – Urtin Bulag

We left everything that we didn't desperately need in the camp. The sleds were light and the dogs could relax a little. It was a magical route right to the heart of the river Khagiin. We took our time and marvelled at the beautiful landscape. Eagles accompanied us, keeping their eyes fixed on our dogs all the while. This evening in the camp, Tsodoo tried on my boots.

Friday, 18th February 2011

Rest day. The dogs desperately needed one, as did I!

Saturday, 19th February 2011 – Urtin Bulag – Khar Us

We are taking the same route back, but this time we will be staying in yurts.

- TERELJ/CHENTII NATIONAL PARK, MONGOLIA
- TEMPERATURE: DOWN TO -55°C
- RISKS: ICE, SNOW, WATER, GREAT STRAIN ON MATERIALS – FOR EXAMPLE ABRASION OF THE SHOES ON CONTACT WITH THE RUNNERS.

Sunday, 20th February 2011 – Khar Us – Bosgiin Gur

Tonight was the last evening with Tsodoo and his family. We had a feast: fermented mare's milk (airag), pickled mutton, potatoes, meat-filled ravioli, cooked cream omelettes (örom), yoghurt (tarag) and natural vodka. I'm rather sad because I've had a great time.

Monday, 21th February 2011 – Bosgiin Gur – Terelj

We reached Terelj without any problems, and that includes my boots. I would have to rate them "very good". We often have to run in order to push the sleds, so the light weight and the strengthened toe cap are ideal for this. Now all that remains is for me to say a sorrowful goodbye to Joël and "my" dogs. But this definitely won't be the last time I see them.

HOW DO YOU BUILD A MONGOLIAN YURT?

Level the snow and stamp it down. Then build the wooden structure. Pull Mongolian linen over the construction. The smoke from the wood oven escapes through a 10cm wide hole in the roof.

THE WORLD TRAVELLER UNITING TECHNOLOGY AND NATURE

NICOLAS DUBREUIL IS SEEN AS THE JACQUES COUSTEAU OF THE ARCTIC. THE ICE HAS HAD A HOLD ON HIM EVER SINCE HIS SEVENTEENTH BIRTHDAY. HE HAS SUBSEQUENTLY UNDERTAKEN 100 EXPEDITIONS IN 25 YEARS.

Nicolas Dubreuil (42) undertakes expeditions and accompanies television companies and scientists to the peoples of the polar regions. He is a Heckel brand ambassador.

Heckel Journal: *Mr Dubreuil, you are an IT graduate, expedition guide and now work intensively in the area of ethnology. What motivates you?*

Dubreuil: My experiences in Greenland and the Arctic. At 17 I made the first journey in a sea kajak from Vancouver to Anchorage. What I saw and experienced hasn't left me since.

Heckel Journal: *You often seem to outdo yourself, but you also help others do the same. How did this happen?*

Dubreuil: A nasty accident on the pack ice nearly cost me my fingers and toes. This experience really shocked me and that's why I now help to make it possible for people with physical disabilities to go on expeditions. They set themselves goals that they would barely have thought about setting even before their accident – and achieve them too. For example, we helped the first-ever below-the-knee amputee to cross the ice cap.

Heckel Journal: *How do you choose your equipment? We are particularly interested in hearing about your choice of shoes.*

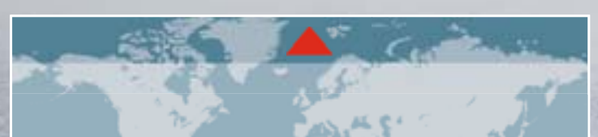
Dubreuil: Comfort is one of the main things you need to take into consideration when choosing shoes that are to be used in exceptionally cold conditions. Sooner or later, wearing a shoe that's too tight in icy, life-threatening temperatures could mean an amputation. Fit and grip are important for survival: the foot needs good support. The sole must be slip resistant on every surface. Extreme cold means high energy expenditure; if the shoes do not act as a direct extension of the foot, energy is wasted. You cannot sweat, because in extremely cold conditions moisture leads to frostbite. The choice of socks is also important in this regard. If you're walking long distances, wear thinner socks.

"My equipment saves my life constantly. If it's good, you don't notice it. If it's bad, you'll immediately pay the price."

Heckel Journal: You are a popular guide for tours to the Inuits and other tribes. What draws you to them?

Dubreuil: Those living in the Arctic Circle possess very valuable expertise. The esteemed ethnologist Philippe Geslin provided me with new insights into the culture of the polar circle. He approaches the investigation of foreign peoples in a completely new way. His boundless curiosity about people and their culture rubbed off on me. Through him, I learnt to truly appreciate the Inuit.

"Comfort is important. Sooner or later, wearing a shoe that's too tight could mean an amputation."



- POLAR REGIONS, PREDOMINANTLY THE ARCTIC
- TEMPERATURES: -15° TO -20°C
- RISKS: STRONG WINDS AND BITING COLD ON THE PACK ICE

Nicolas Dubreuil spends the majority of his time in the polar region. Together with local hunters, he puts Heckel products through their paces in all walks of polar life.

***Heckel Journal:** Will you now become an ethnologist?*

Dubreuil: I am, of course, still an expedition guide, but the research aspect does really interest me. I have been working on my Greenlandic and learning about bear and narwhal hunters. I have just bought a house in the remotest village in Greenland. So I have been increasingly researching and writing about the people with whom I now spend the majority of my life.

Further information about Nicolas Dubreuil: www.sikumut.com

NICOLAS DUBREUIL TESTS MACSOLE® EXTREM 2.0 MODELS

Heckel asked us to put MACsole® Extrem 2.0 products, and particularly the MACPOLAR model, to the test. To do this, we went to the most remote region of Greenland at the coldest time of year. We used the "Haute Ecole Arc" guidelines. Our testing process comprised of two parts:

1. *Testing Heckel MACPOLAR during a ski and pulk expedition* that included various special activities such as climbing and diving..*
2. *Hunters in the Kullorsuaq village test MACsole® Extrem 2.0 products on the pack ice. For us, the cold temperatures and windy conditions there are almost unimaginable.*

***Test result:** Even with our many years of experience, we were surprised by the MACsole® Extrem 2.0 series. Heckel safety footwear works significantly better than cross-country skiing shoes or common Canadian boots. Each of these types of footwear has its pros and cons, but MACPOLAR in the MACsole®*

Extrem 2.0 series combines all the advantages. The shoes support the feet and keep them warm, whilst being extremely comfortable. They are perfect as an all-round shoe at camp, although it is possible to climb mountains with them too. It was above all during my diving expedition that the MACPOLAR proved how quickly it warms the feet. And the hunters on the pack ice felt the same. They didn't say very much, but wore the shoes until they arrived back at the village. And that is a huge compliment!

**pulk: transport sled*

IMPRINT

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Discover the Heckel product world by flipping the magazine over.