



# 2023 products Tech Corner

A new era...

FIRST



SUNSTAR  
**BRAKING**<sup>®</sup>

BICYCLE ELEMENTS

**FIRST is the new braking system Braking, unique and completely renewed in its main features, precisely the FIRST of a new era.**

**A completely new project, 100% Made in Italy and CNC worked, the result of our experience gained on the race fields. "First" guarantees tailor-made braking thanks to the new design that will allow you to manage the ergonomics of the brake REGARDLESS of the hydraulic adjustment.**

**A dress that you can customize through the choice of various possible customizations.**

**"TAILOR-MADE" is one of our missions: to give a brake that is suitable for everyone, perfect for each discipline and customizable according to the different needs of each rider.**

**.. you won't believe your fingers...**

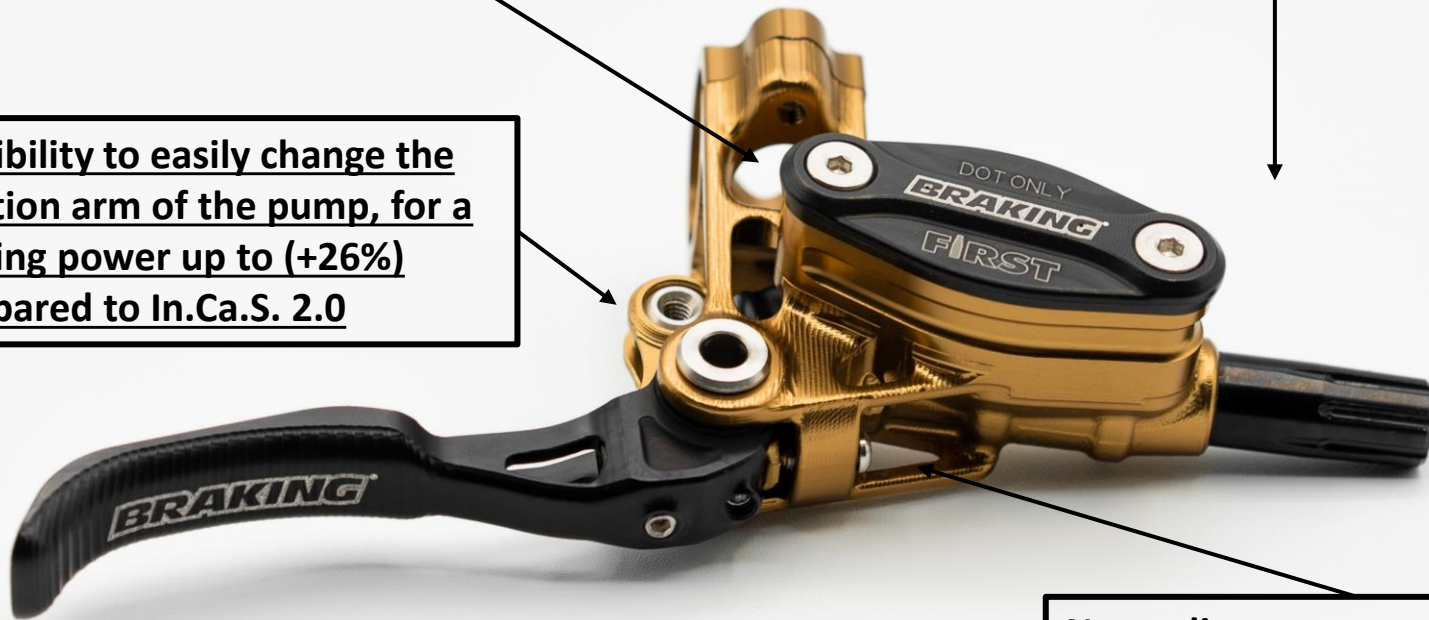


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New pump tank with increased oil volume (+10%) and easy oil draught even in inverted position

New, thinner pump cartridge with more holes for lubrication and laminated piston chamber for better piston flow

Possibility to easily change the reaction arm of the pump, for a braking power up to (+26%) compared to In.Ca.S. 2.0



New adjustment system for the dead stroke of the MC piston, separate from the adjustment of the lever.

**Simplest clamp purge system  
with built-in purge nipples at  
the highest position**

**Better piston roll-back  
and faster oil flow**



**New caliper mounting holes,  
for better and faster centering  
of the caliper on the frame**

**Possibility to install 3 mm  
discs directly (no spacers needed)**

## WHAT WE'VE IMPROVED IN F.I.R.S.T.

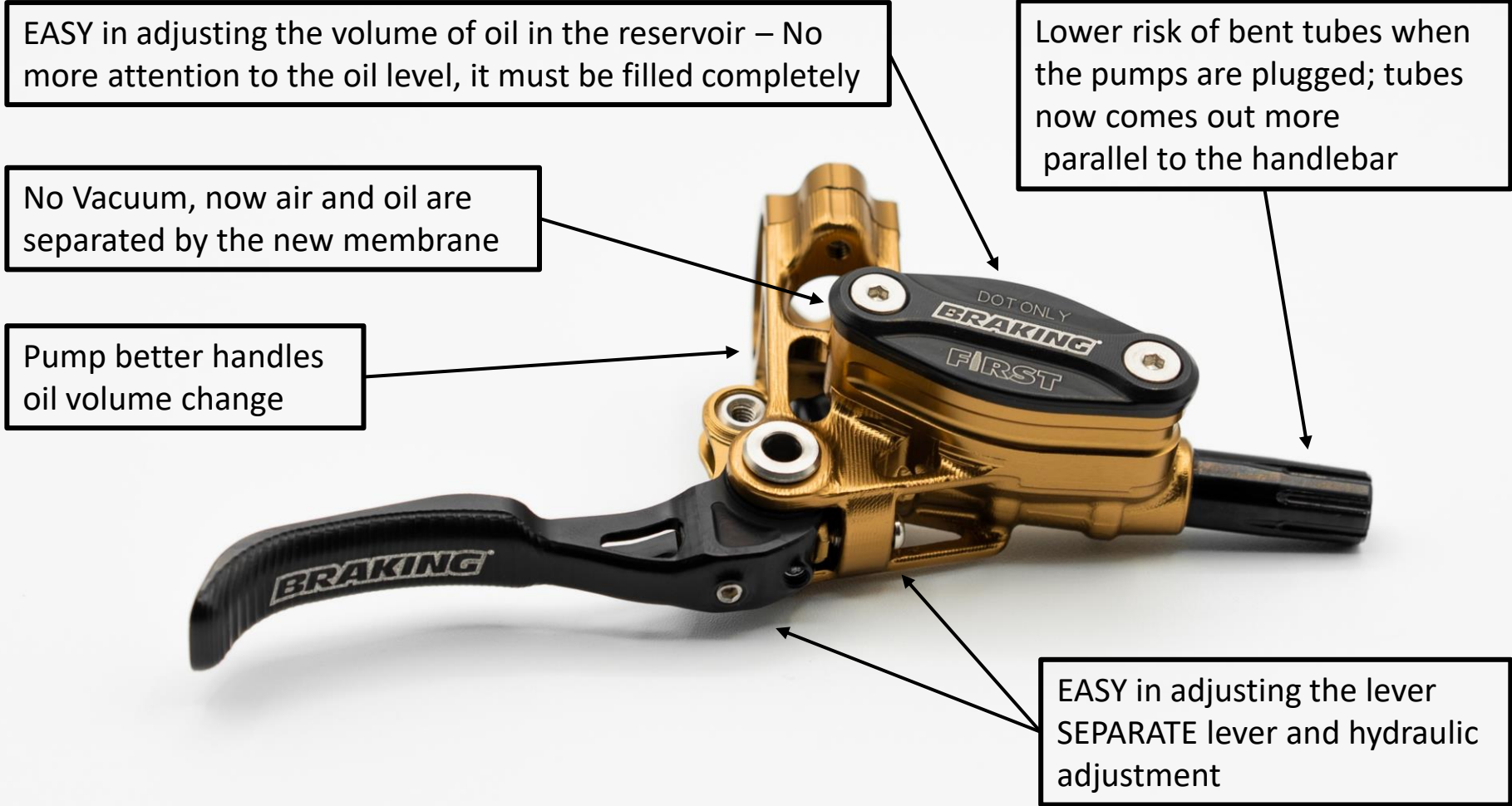
EASY to purge – bleeding nipple and cartridge with double holes

EASY in alignment the caliper  
Greater ROLL-BACK of the pistons  
and grains for centering



EASY to assemble – The clamp slots  
have been enlarged

## WHAT WE'VE IMPROVED IN F.I.R.S.T.



EASY in adjusting the volume of oil in the reservoir – No more attention to the oil level, it must be filled completely

No Vacuum, now air and oil are separated by the new membrane

Pump better handles oil volume change

Lower risk of bent tubes when the pumps are plugged; tubes now comes out more parallel to the handlebar

EASY in adjusting the lever SEPARATE lever and hydraulic adjustment

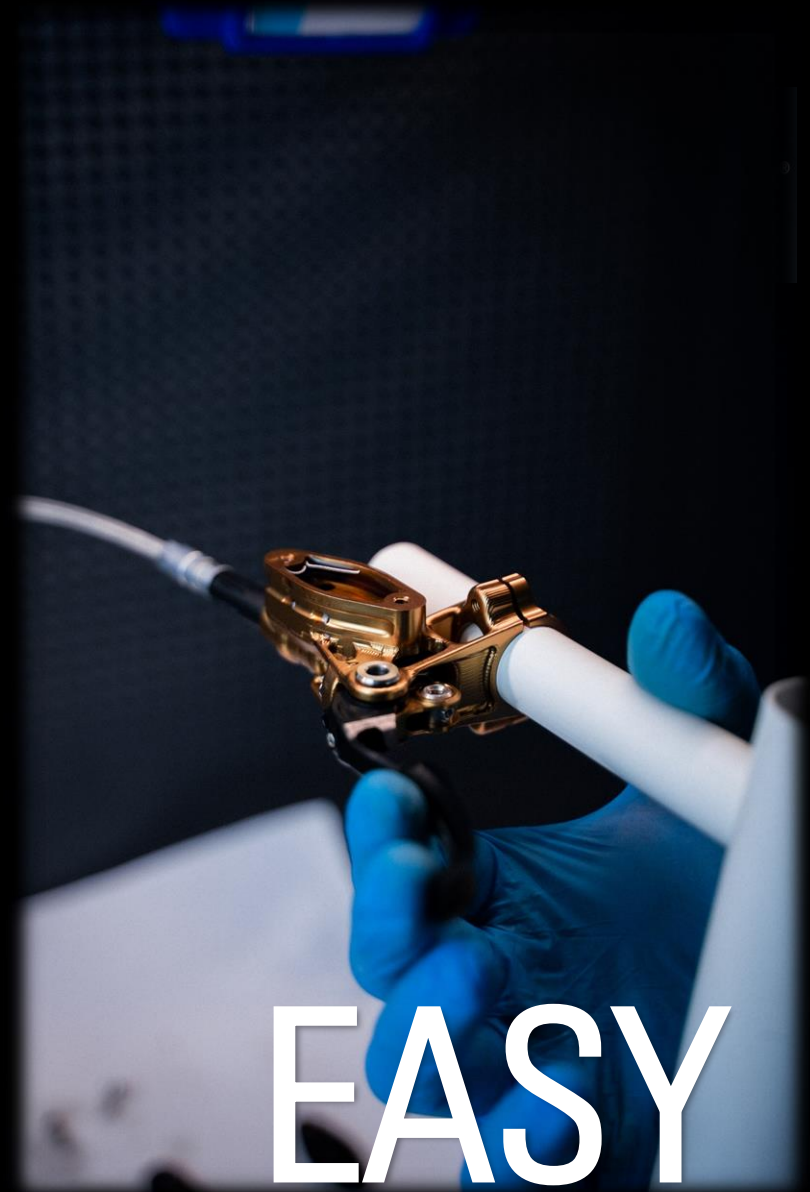
# Selling Point?

EASY TO ASSEMBLE

EASY TO BLEED

EASY TO ADJUST

EASY TO MAINTAIN



EASY

# Selling Point?

BENCH-TESTED BY CERTIFIED LABORATORIES

TESTED BY OUR RIDERS

TESTED BY ALL OF US

A close-up photograph of a person's hands wearing blue nitrile gloves, adjusting a black bicycle handlebar grip. The person is using a pair of silver-handled pliers to tighten a gold-colored clamp on the handlebar. The background is dark and out of focus, showing the rest of the handlebar and a white cable.

**RELIABLE**

# Selling Point?

Possibility to change the leverage force – link

Possibility to change the bite contact – preload

Ability to change the cartridge flow rate

Ability to modify pipelines

A person wearing a blue jacket and blue gloves is using a dental handpiece on a patient's teeth. The handpiece is black and gold, with a thin metal wire attached. The person is looking down at the patient's teeth. The background is dark and out of focus.

**CUSTOMIZABLE**

Our core...

NEW DISCS

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A new era...

# STAGE 0



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## DISCS

# Selling Point?

Our spearhead, our top-of-the-range MTB disc.

Developed by our R&D department and directly derived from our "STAGE0" disc designed for the World SBK.

Epta STAGE0 is a very special and extremely worked disc to guarantee exceptional performance to our riders.

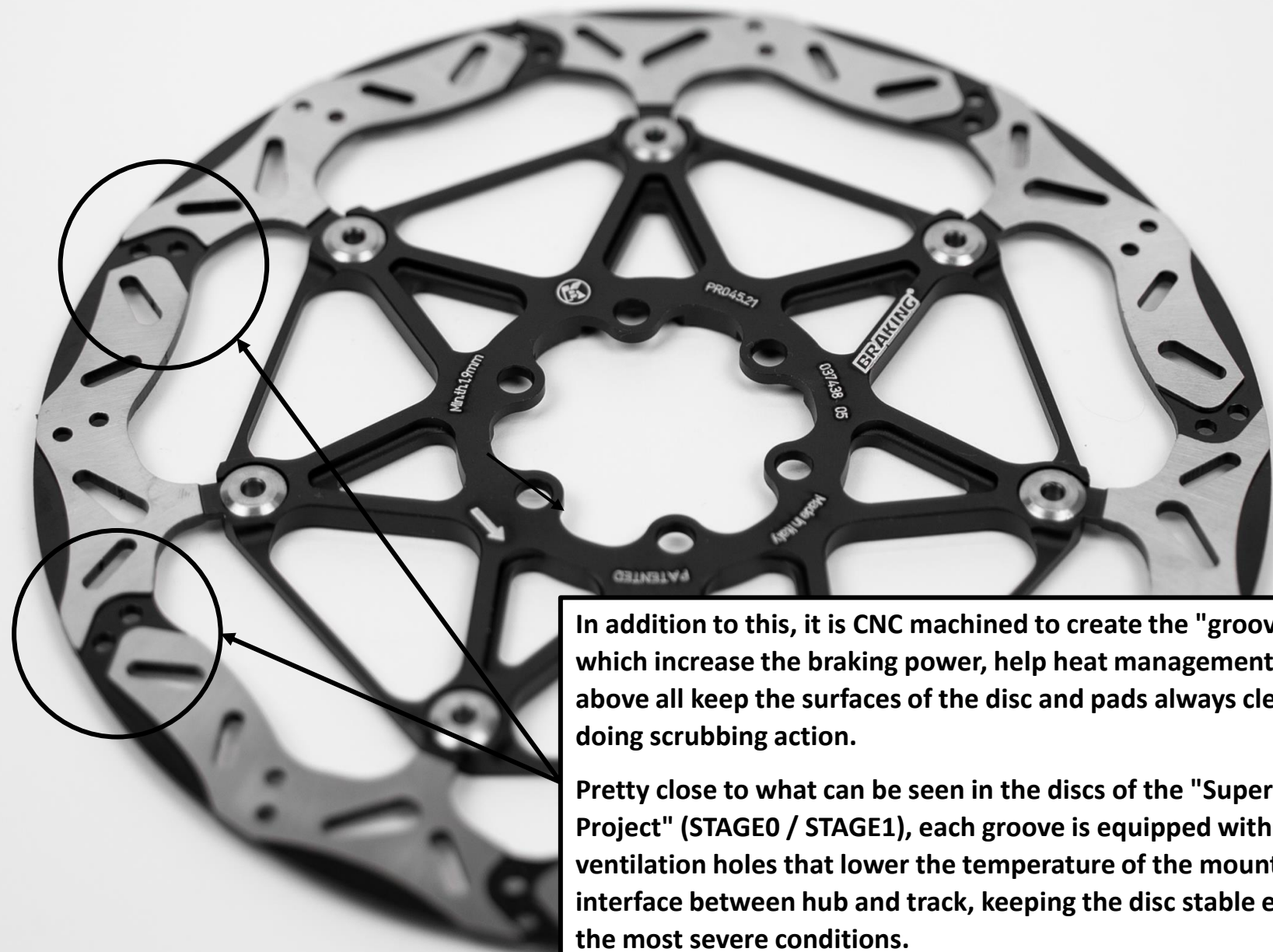
Unlike what many believe, EPTA STAGE0 is not a floating disc: at each of the seven anchor points between hub and braking track, there is no flotation.



The hub is in Ergal (AL7075-T6) oxidized hard black to increase the mechanical performance, stiffness, and resistance of the disc to scratches, wear and accidental blows.

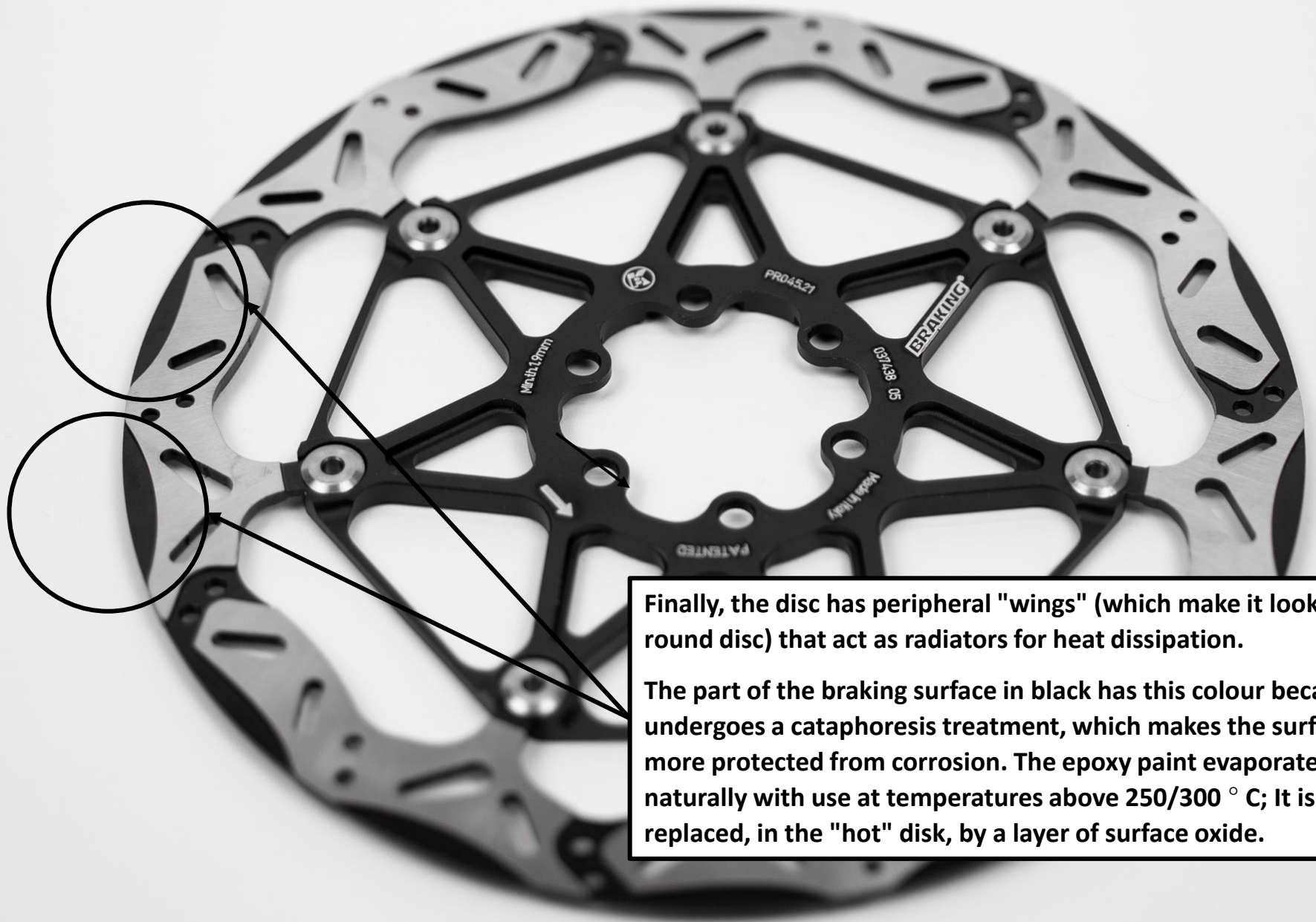


The braking track, in MARTENSITIC STAINLESS STEEL, is the real secret of this disc: it is made by laser cutting to guarantee sharp edges and therefore better braking POWER



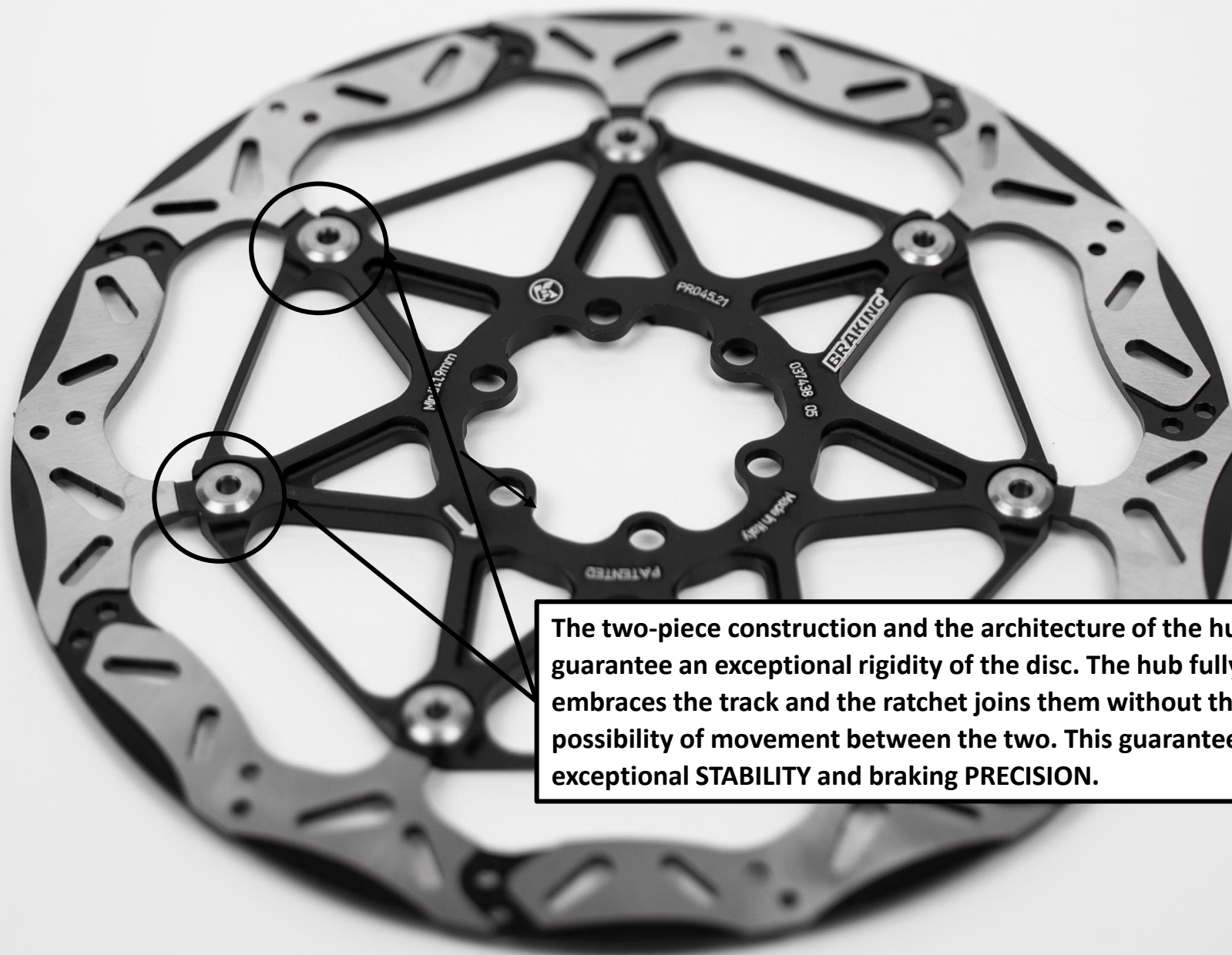
In addition to this, it is CNC machined to create the "grooves", which increase the braking power, help heat management and above all keep the surfaces of the disc and pads always clean, doing scrubbing action.

Pretty close to what can be seen in the discs of the "Superbike Project" (STAGE0 / STAGE1), each groove is equipped with ventilation holes that lower the temperature of the mounting interface between hub and track, keeping the disc stable even in the most severe conditions.



Finally, the disc has peripheral "wings" (which make it look like a round disc) that act as radiators for heat dissipation.

The part of the braking surface in black has this colour because it undergoes a cathodolysis treatment, which makes the surfaces more protected from corrosion. The epoxy paint evaporates naturally with use at temperatures above 250/300 ° C; It is replaced, in the "hot" disk, by a layer of surface oxide.



The two-piece construction and the architecture of the hub guarantee an exceptional rigidity of the disc. The hub fully embraces the track and the ratchet joins them without the possibility of movement between the two. This guarantees exceptional **STABILITY** and braking **PRECISION**.

# Two pieces construction

The two-piece construction and the architecture of the hub guarantee an exceptional rigidity of the disc. The hub fully embraces the track and the ratchet joins them without the possibility of movement between the two. This guarantees exceptional STABILITY and braking PRECISION.

The hub is in Ergal (AL7075-T6) oxidized hard black. It is important to underline that, unlike our competitors, ours is not an aesthetic treatment because "black fades": hard oxidation increases the mechanical performance, stiffness, and resistance of the disc to scratches, wear and accidental blows. The braking track, in MARTENSITIC STAINLESS STEEL, is the real secret of this disc: it is made by laser cutting to guarantee sharp edges and therefore better braking POWER



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# Power and heat dissipation

In addition to this, it is CNC machined to create the "grooves", which increase the braking power, help heat management and above all keep the surfaces of the disc and pads always clean, doing scrubbing action.

Pretty close to what can be seen in the discs of the "Superbike Project" (STAGE0 / STAGE1), each groove is equipped with ventilation holes that lower the temperature of the mounting interface between hub and track, keeping the disc stable even in the most severe conditions.

Finally, the disc has peripheral "wings" (which make it look like a round disc) that act as radiators for heat dissipation.

The part of the braking surface in black has this colour because it undergoes a cataphoresis treatment, which makes the surfaces more protected from corrosion. The epoxy paint evaporates naturally with use at temperatures above 250/300 ° C; It is replaced, in the "hot" disk, by a layer of surface oxide.



# Options available:

The braking track has a thickness of 1.9 in diameters 160 and 180 (suitable for Cross Country) and 2.2mm in diameters 180, 203 and 220 (for e-bike, enduro and DH).

They are compatible with all braking systems, there is no need to have a BRAKING® system.

They are available in 6 holes and Centerlock versions, in all diameters.

The disc has been designed to handle the worst braking conditions.

Perfect for eBIKE, downhill, enduro and XC



A new era...

# LIGHTWAVE



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## DISCS

# Finally... On the ROAD

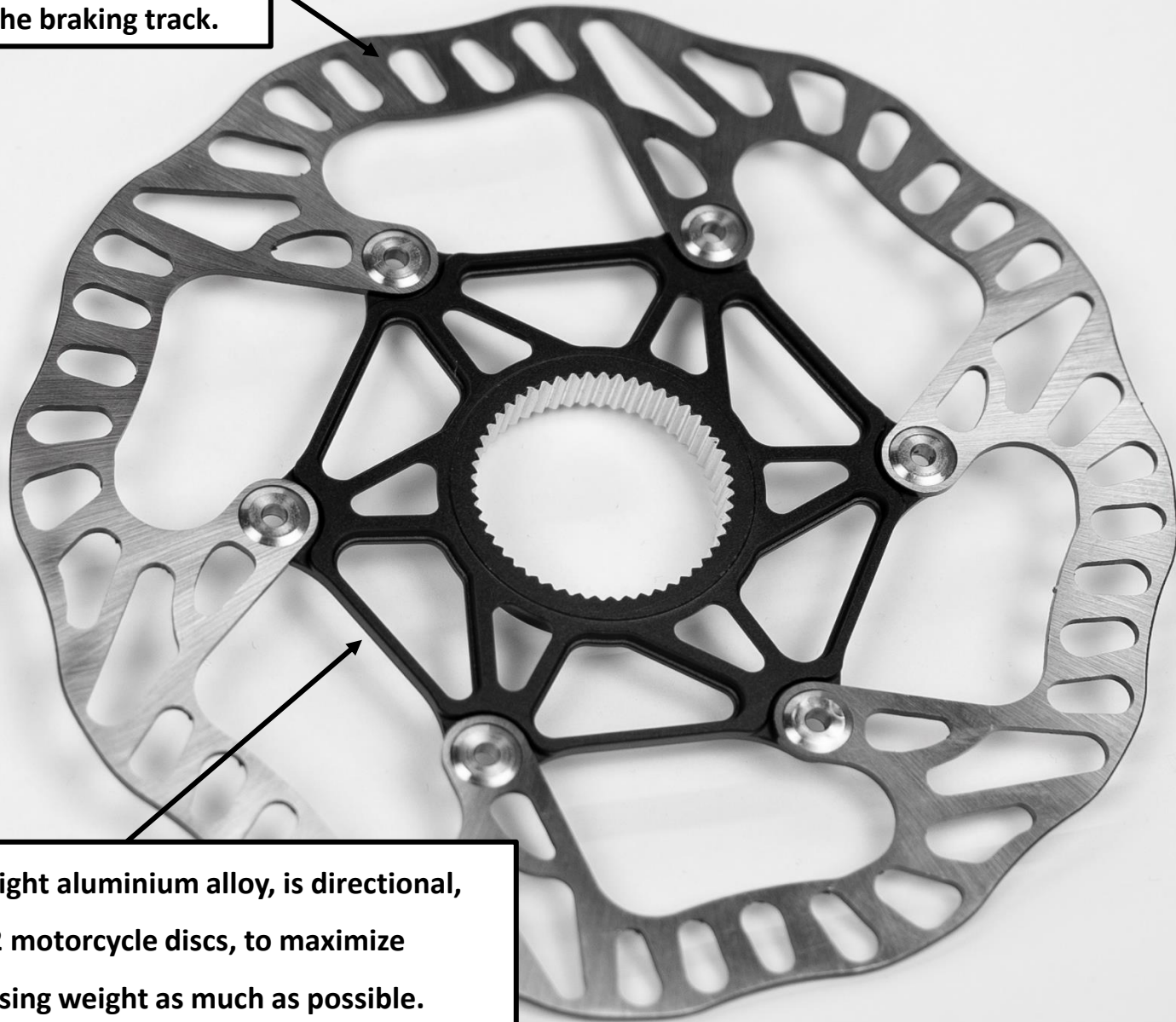
Our big news launched on the market in 2022. For us a new challenge, which we are sure to win: to bring all our experience in the world of road bikes with a new project, a revolutionary record for us.

LightWave was created to satisfy the most demanding cyclists, attentive to weight and performance. Made with our best materials, this new disc impresses with its braking safety and its rigidity which, translated, mean **PERFORMANCE.**

The logo for Sunstar Braking Bicycle Elements is displayed in a dark grey rectangular box. It features the word "SUNSTAR" in a small, white, sans-serif font at the top. Below it, the word "BRAKING" is written in a large, bold, white, italicized sans-serif font with a registered trademark symbol. At the bottom, the words "BICYCLE ELEMENTS" are written in a smaller, white, sans-serif font, separated from the word above by a thin white vertical line on the left side.

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**It is always made of martensitic stainless steel for the braking track.**



**The hub, made of light aluminium alloy, is directional, like that of our SK2 motorcycle discs, to maximize stiffness by decreasing weight as much as possible.**

# Selling Point?

It is always made of martensitic stainless steel for the braking track.

The hub, made of light aluminium alloy, is directional, like that of our SK2 motorcycle discs, to maximize stiffness by decreasing weight as much as possible.

Available only in Centerlock version, diameter 140 mm and 160mm, thickness 1.9mm.

It is supplied with CLOSING RING (codes LW2001C and LW2002C) or without (codes LW2001 and LW2002).



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# Options available:

Available only in Centerlock version, diameter 140 mm and 160mm, thickness 1.9mm.

It is supplied with CLOSING RING (codes LW2001C and LW2002C) or without (codes LW2001 and LW2002).



Our core...

# NEW PADS

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# Finally...On the ROAD

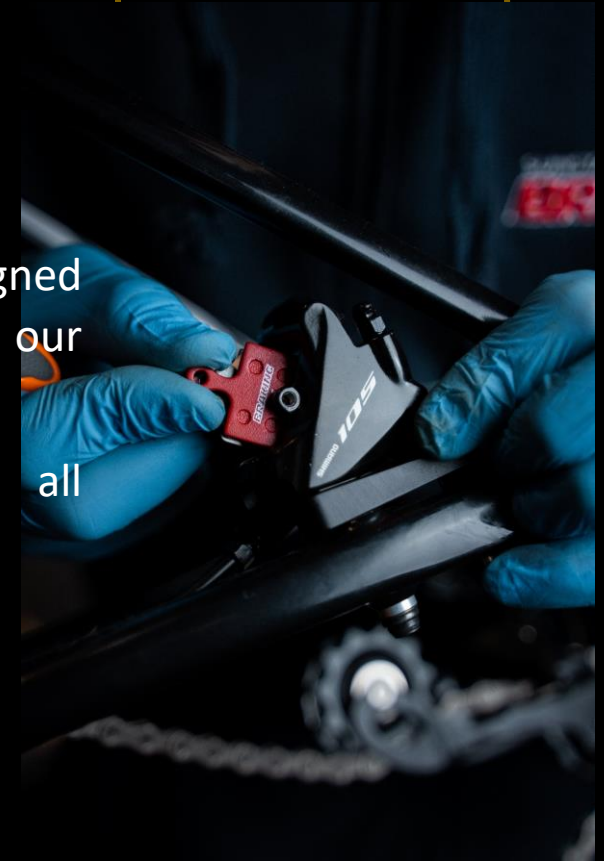
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## ROAD — PRO TOUR PAD - RED

A new pad expressly dedicated to the ROAD world and designed together with our professional riders. It uses an evolution of our organic compound.

It allows excellent braking performance and quietness at all temperatures and a longer life than standard.

Recommended for road and gravel use.



# E-BIKE tuned pad

eBIKE WORLD CUP RACE – BLUE

A new pad with a compound developed specifically to ensure excellent performance on the most difficult terrain.

This pad guarantees excellent resistance to high temperatures and a very powerful and silent braking.

It therefore combines the advantages of Organic Tablet and those of Carbometallic. Especially in the wet, where the performance of a standard Carbometallic is reduced, this pad guarantees excellent braking power.

Recommended for the most demanding riders and for intense use. Great for e-bikes, enduro and downhill.

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