

MAHA INNOVATION CENTER

PIONEERING SOLUTIONS FOR THE MEASUREMENT
AND TESTING TECHNOLOGY OF TOMORROW.

**PATENT-
PENDING**
DE 10 2021 214 802 A1



GRIPMATRIX.

TEST ROLLERS: NO COATING.
ALL STRUCTURE.

made by MAHA
 made
in
Germany



GRIPS THE TYRE. STILL PROTECTS IT.

Conventional coatings for brake tester rollers – hard-facing weld beads, plastic coatings – give the vehicle wheels grip. But the tyre protection and roller service life can vary considerably depending on the process.

GripMatrix takes a different approach. Instead of applying an additional layer, **the process structures the roller surface through plastic deformation.** The recesses and raised sections are formed directly from the roller's base material – **with no material added, no weld seams and no adhesive coating.** It's a **non-cutting, low-heat** process. The base material is strengthened through cold work hardening.

The result: a test roller surface with a defined friction coefficient and completely solid raised sections instead of hollow weld beads – with a service life that outlasts conventional coatings, and **noticeably less tyre wear.** Built for premium, sports and high-performance vehicles.

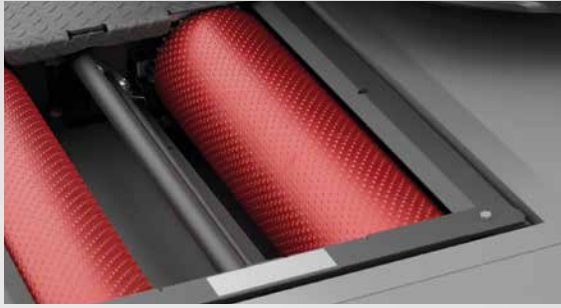
WHAT THIS MEANS FOR YOU:

- **Gentle testing:** Every test run puts less strain on premium and high-performance tyres than on conventionally coated rollers.
- **Roller service life:** The plastically formed structure is completely solid, not hollow – making it more mechanically resilient and meaning the roller itself wears less.



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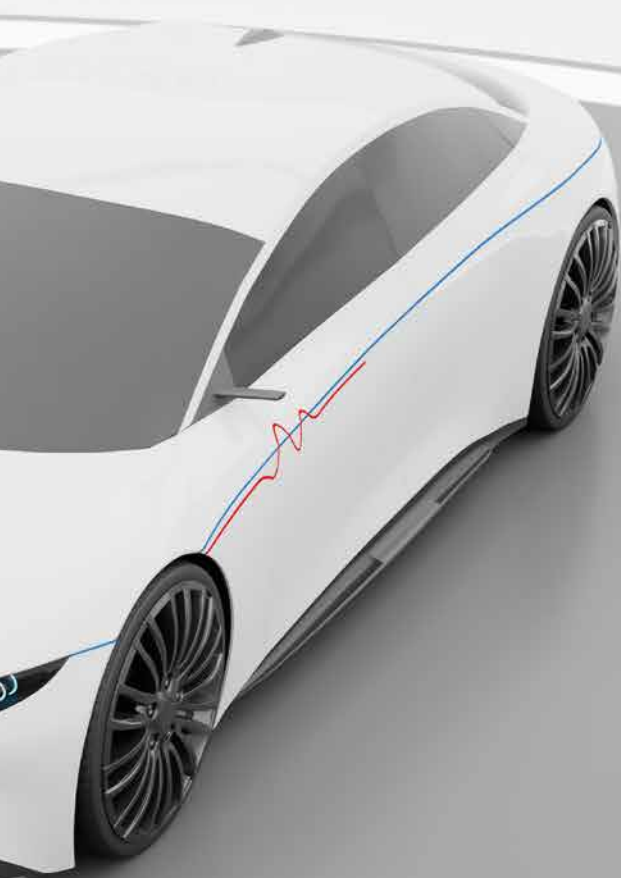
Plastically formed structure.

The recesses and raised sections are formed directly from the roller's base material – with no material added and no welding.



Completely solid, not hollow.

Conventional weld beads are hollow. GripMatrix's raised structures are solid all the way through. As a result, it withstands continuously higher loads – over a longer service life.



**BUY NEW?
OR RETROFIT.**

Whether they're for a new MAHA brake tester or an existing installation, GripMatrix rollers are available as original equipment – or as a replacement kit for all existing MAHA installations.

**NON-CUTTING
SURFACE FORMING.**

Non-cutting means no chipping, no material waste, no toxic fumes – and no need for an extraction station in Production.

**COLD
WORK HARDENED.**

The indentation process strengthens the base material at the same time. Cold work hardening makes the surface more mechanically resilient – with no heat input and no component distortion.

THE TECHNOLOGY AT A GLANCE.

PLASTIC SURFACE FORMING.

The recesses and raised sections are pressed straight into the roller surface – with no cutting, no material added, no welding and no adhesive coating.

DEFINED FRICTION COEFFICIENT.

The machining pattern controls the surface roughness – the friction coefficient can be coordinated to the application (PTI, high-performance testing).

TOOL- ADJUSTABLE.

Tool selection and machining parameters determine the shape and geometry of the structures – adaptable to each application.

CNC- AUTOMATED.

Manufactured on standard commercial CNC machine tools using a pre-programmed pattern – reproducible, reliable and suited to high-volume production.

MATERIAL FLEXIBILITY.

The process works with any plastically formable material – not limited to weldable metals; formable plastics are an option too.

FOR ALL MAHA BRAKE TESTERS.

Available as a new installation or a retrofit kit.

TIMING

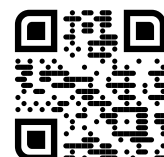
CURRENT STATUS:
CONCEPT PHASE

NEXT STEP:
TECHNICAL PROTOTYPE /
VALIDATION WITH PILOT PARTNERS

TARGET VISION:
PREPARATION FOR A POSSIBLE
MARKET LAUNCH



MAHA SE & Co. KG
Hoyen 20
87490 Haldenwang
Germany



maha.de