

TEGOMER® AntiScratch 100

Make your plastic tough enough.



EVONIK
INDUSTRIES

Applications Where Antiscratch is of High Importance

➔ Dashboards



➔ Interior door panels



➔ Bumpers



Dashboards are a Typical Application for Antiscratch Additives

- Car customers & designers like grained surfaces
 - These surfaces are very sensitive to scratch
- ➔ **Need for Antiscratch additives**

Industry standards for grained surfaces:

- K 09: strongly grained (internal standard of VW)
- K 31: smoothly grained (internal standard of GM)



TEGOMER® AntiScratch 100 Works in a Broad Variety of Formulations



Dashboard formulations tested with AntiScratch 100:

Polypropylene	78 – 48%
Pigment masterbatch	2 - 5%
Talc	15 - 40%
AntiScratch 100	2 - 4%
Calcium stearate	0.2%
Other additives (antioxidants; UV stabilizer)	1%

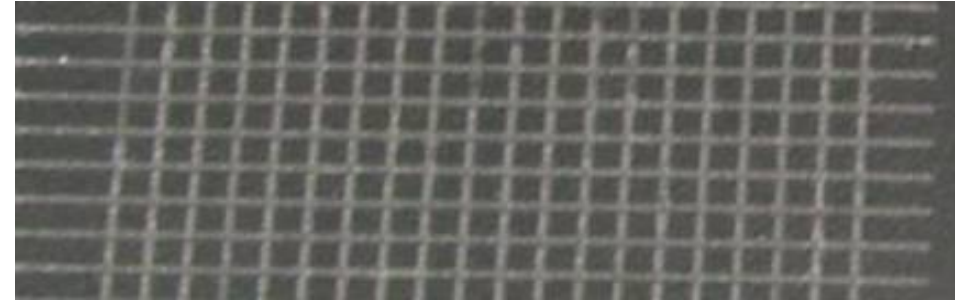
Specific formulation for K 09 surface:

Polypropylene (PP 401 CA 20)	74.8%
Pigment masterbatch (black 30)	3%
Talc (IMIFABI CM 2)	18%
AntiScratch 100	3%
Calcium stearate	0.2%
Other additives (antioxidants; UV stabilizer)	1%

The Performance of AntiScratch 100 is Superior to Today's Standard



No additive, talc particles at surface result in white scratches



2% silicone oil masterbatch, cow like surface from migrating silicone oil



3% TEGOMER® AntiScratch 100, homogeneous appearance, no talc particles at surface



Standard Tests are In-House Available

In-House capabilities

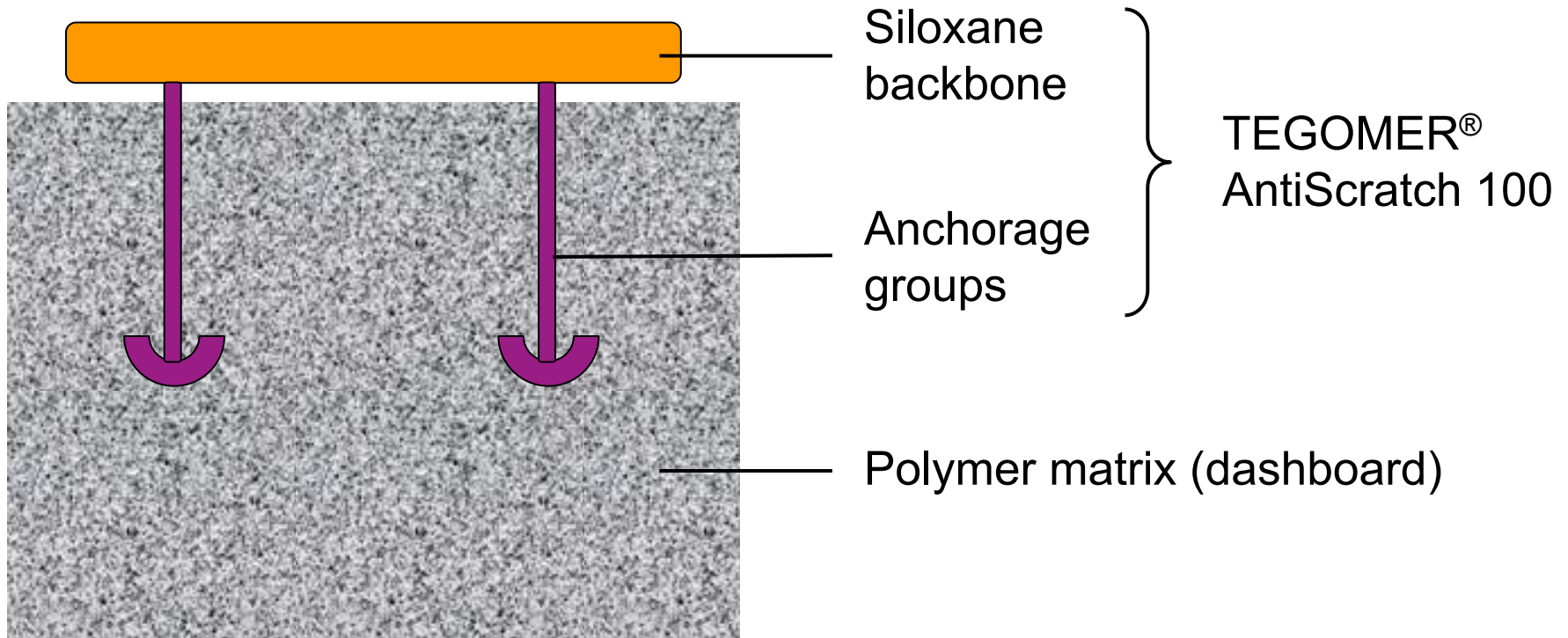
- Erichson equipment for evaluation of scratch resistance
- Moulding devices for K09 & K31
- Other automotive norms available in 2008



Erichson equipment for GM E 60 280

We offer our technical equipment and our knowledge in evaluating the scratch resistance of surfaces modified with our additives. This can either be PP/talc, PP/wollastonite or PET.

TEGOMER® AntiScratch 100 is a Permanent Slip Enhancer



The anchorage groups of TEGOMER® AntiScratch 100 ensure a permanent and long lasting antiscratch effect.

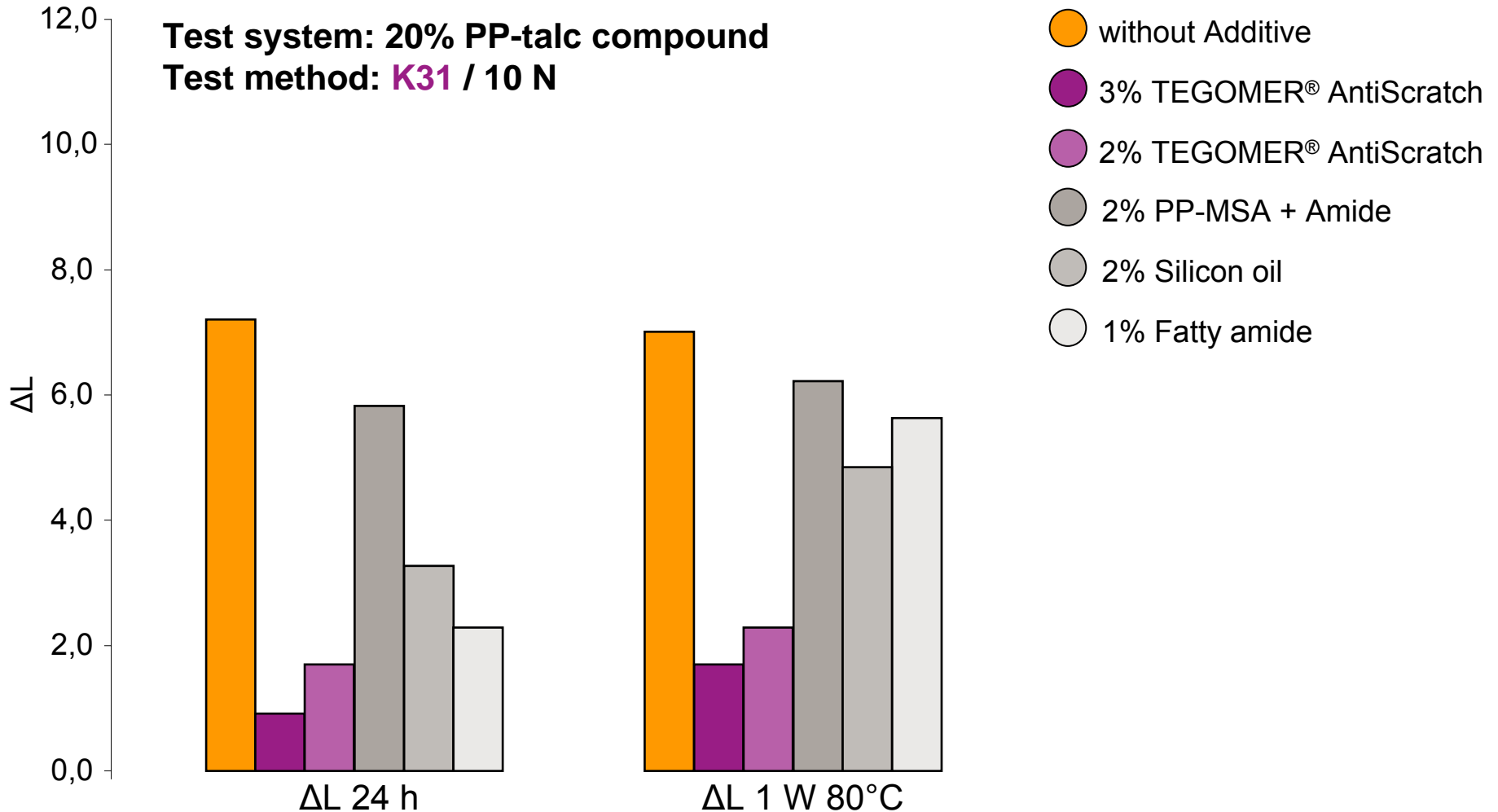
TEGOMER® AntiScratch 100 Yields Outstanding Properties in Performance



	AntiScratch 100	Amides	Silicone oil Masterbatch	MAA grafted Polyolefine
Scratch 1d / RT	++	++	++	(+)
Scratch 7d / 70°C	++	0	(+)	(+)
Migration	no	yes	yes	partly
Odor	no	yes	no	partly
Notched Impact	+	0	0	0
Coloration	+	+	0 or -	+
Use in moulding operations	++	0	-	0 or -
Addition in %	2-4	0.5-2.0	2-4	>3

TEGOMER® AntiScratch 100 Gives a Long Lasting Effect

Test system: 20% PP-talc compound
Test method: K31 / 10 N



TEGOMER® AntiScratch 100 – Summary of Properties



TEGOMER® AntiScratch 100...

- is a compound based on organic modified siloxane
- improves the mechanical properties of PP and PP/PPO talc filled systems
- operates as a permanent slip enhancer
- does not show migration
- is significantly better as competitor's products
- works also for PA, TPEs, PET, ABS as first lab trials show



Scratch me – if you can!

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