

NEUBURG SILICEOUS EARTH IN SOFT FEEL COATINGS 2K PU HYDRO CLEAR COAT

OBJECTIVE

Performance of a filler in a Soft Feel Clear Coat:
Aktifit PF 115 versus matting agents

FORMULATION

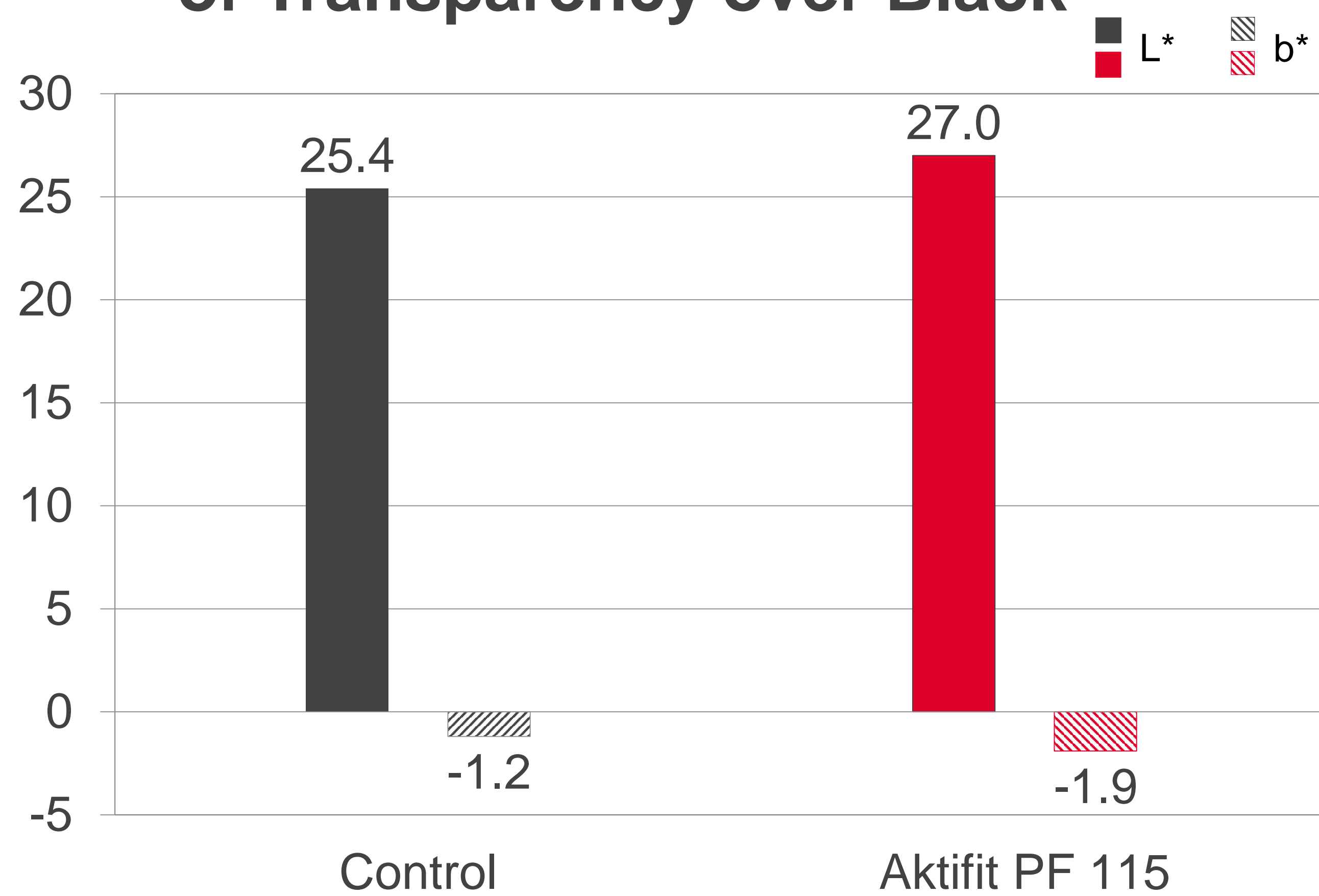
Scandex grinding to a fineness of < 10 µm, stir in Acematt 3300 afterwards Application with air spray gun on Bayblend T65 XF, DFT: approx. 50 µm; Dry off for 10 min, 30 min @ 80°C, 4 h @ 60°C, 7 days @ 23°C and 50 % rel. humidity			Control	Aktifit PF 115
Component A	Bayhydrol U 2757	Polyurethane dispersion	30.5	30.5
	Bayhydrol UH 340/1	Polyurethane dispersion	39.7	39.7
	Water, demineralized	Solvent	9.8	9.8
	Lucrafoam DNE 01	Defoamer	0.2	0.2
	Tego-Wet KL 245 (50% in water)	Additive (substrate wetting)	0.4	0.4
	BYK 348	Additive (substrate wetting)	0.6	0.6
	Aquacer 513	Additive (surface protection)	1.6	1.6
	Decosoft transparent 7 D	Matting agent (PU polymer)	7.4	5.0
	Acematt 3300	Matting agent (thermal silica)	3.0	2.0
	Aktifit PF 115	Calcined Neuburg Siliceous Earth	-	11.2
Component B	Desmodur ultra N 3600 / Bayhydur XP 2655 (70:30); 75 % in 1-methoxy-2- propylacetate	HDI-Polyisocyanates	6.8	6.8
Dilution with demineralized water to a flow time of approx. 30 s in ISO 5 mm cup			2.1	3.6
Total			102.1	111.4

Basis: Guide formulation from Covestro

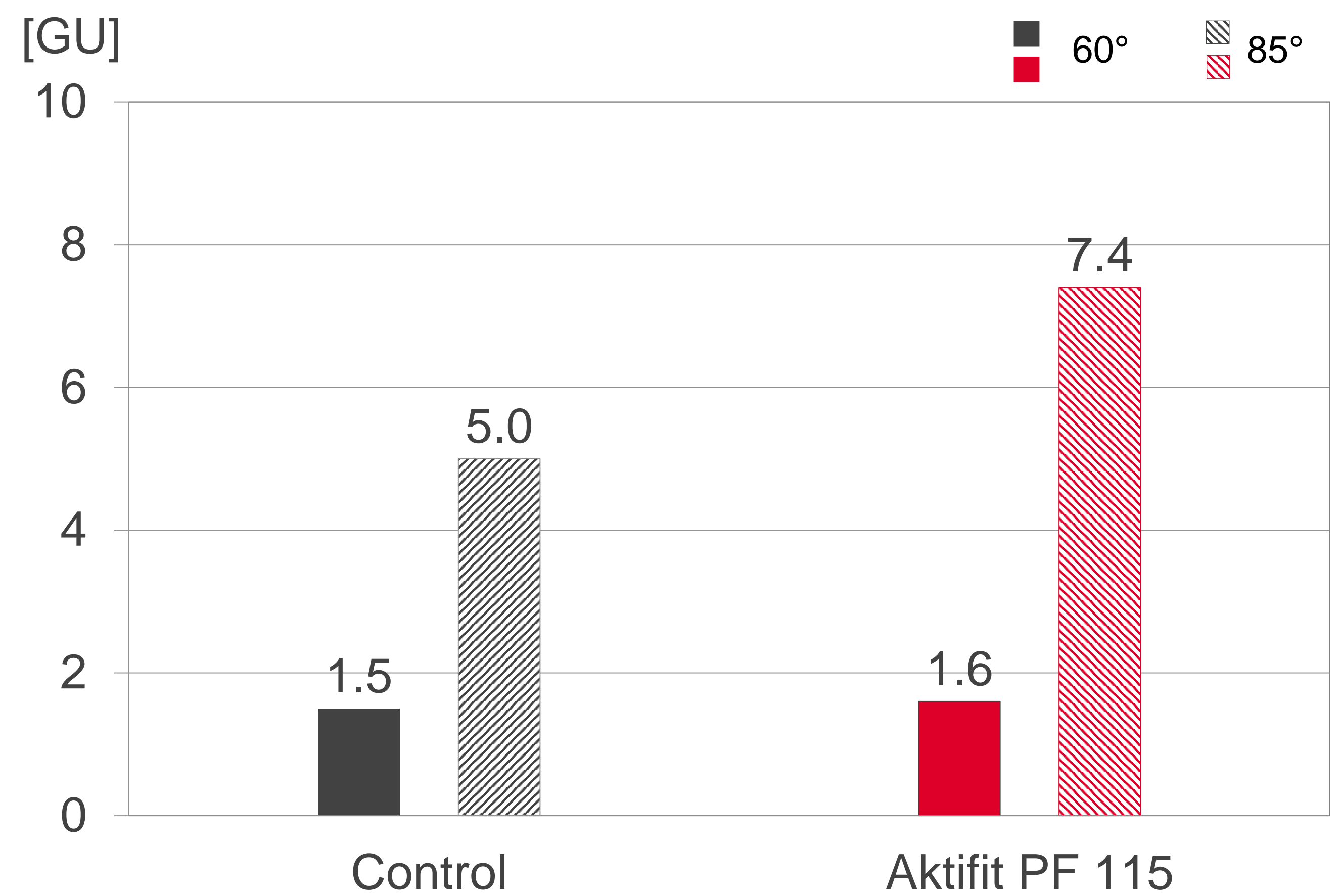
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RESULTS

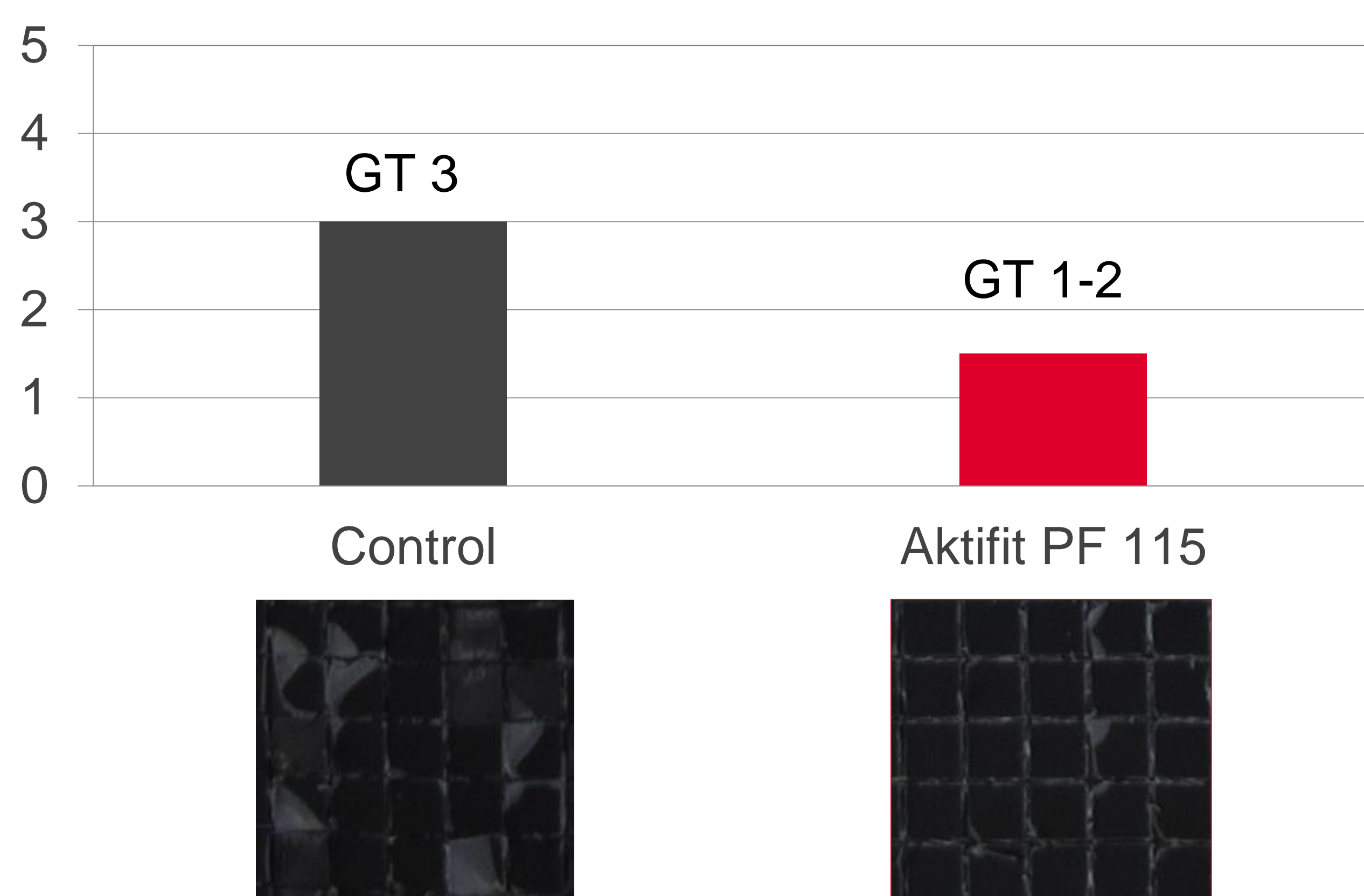
Color L* and b* for Assessment
of Transparency over Black



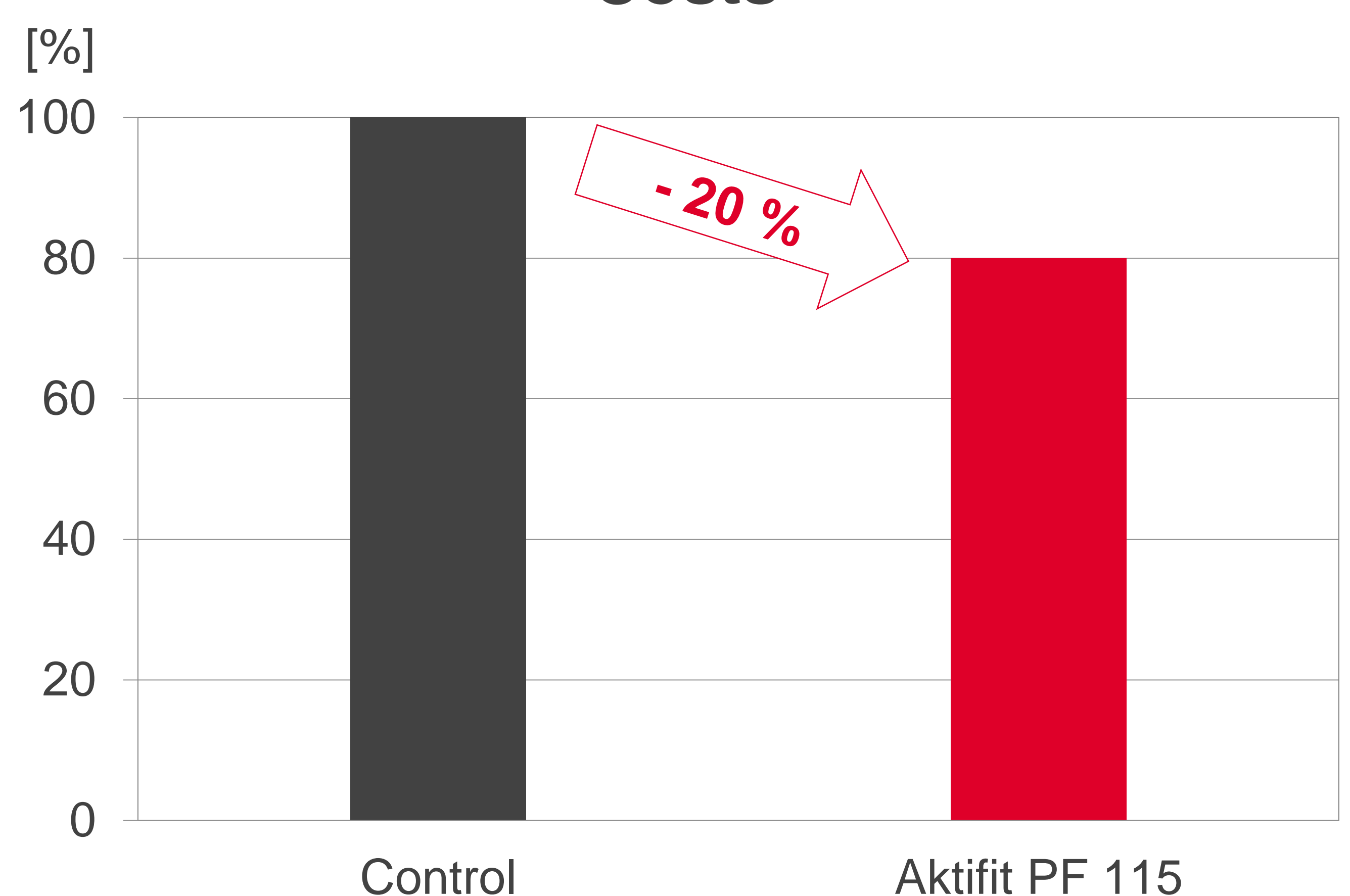
Gloss 60° / 85°



Adhesion
Cross Cut Test (2 mm) DIN EN ISO 2409



Costs



SUMMARY

Aktifit PF 115 can be used as partial replacement of the commonly used matting agents and is also suitable for the NMP-free binder generation:

- The optical properties and resistance to hydrolysis and various substances like xylene, methoxypropyl acetate, super petrol, hand cream and suntan lotion are largely retained. If more transparency is required, the filler content can be reduced and individually adapted from the maximum dosage of 11.2 parts to minimum 5-8 parts, because with the lower content the optical properties are similar to the control.
- The adhesion is slightly improved by the use of **Aktifit**, even after suntan lotion resistance test.
- Cost reduction potential up to 20 % is possible.