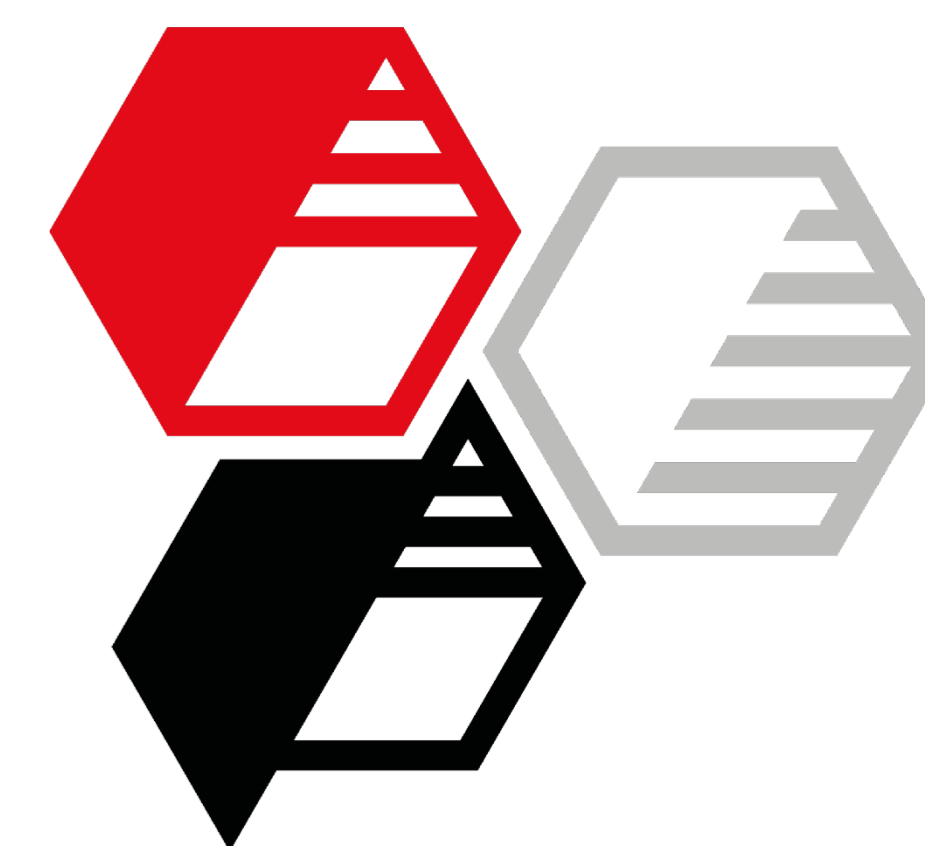


Neuburg Siliceous Earth in cathodic electro deposition coatings acrylate single-layer red



Objective

Effect of Neuburg Siliceous Earth (NSE) on the properties of a CED coating, filler introduction via reduction of the pigments content

Formulation

Pigment preparation	Control	NSE
Viacryl VSC 6292w/38WA	360	360
Texanol	20	20
Butyl glycol	6	6
Surfynol 104 1:1 in methoxy propanol	20	20
Deionized water	285	220
Paliogen-Red L 3910 HD	105	70
Kronos 2190	75	50
Neuburg Siliceous Earth	0	125
Acetic acid 30 %	12	12
Deionized water	117	117
Total	1000	1000

Bath formulation		
Deionized water		624
Acetic acid 60 %		1
Viacryl VSC 6592w/38WA		250
Pigment preparation		125
Total		1000

Pigment / binder ratio	0.20	0.27
Solids content w/w [%]	13.6	14.4

Substrate: Gardobond 26S/W/OC (steel, zinc phosphated) dry film thickness: approx. 35 µm curing at 170°C (35 minutes dwelling time of the panels in the oven)

Summary

CED coatings with Neuburg Siliceous Earth provide high corrosion protection. Various properties can be further improved by a targeted selection of the type.

Sillitin Z 86

best price-performance ratio, good corrosion protection

Sillitin Z 89

higher gloss level, also for brighter colors, improved storage stability

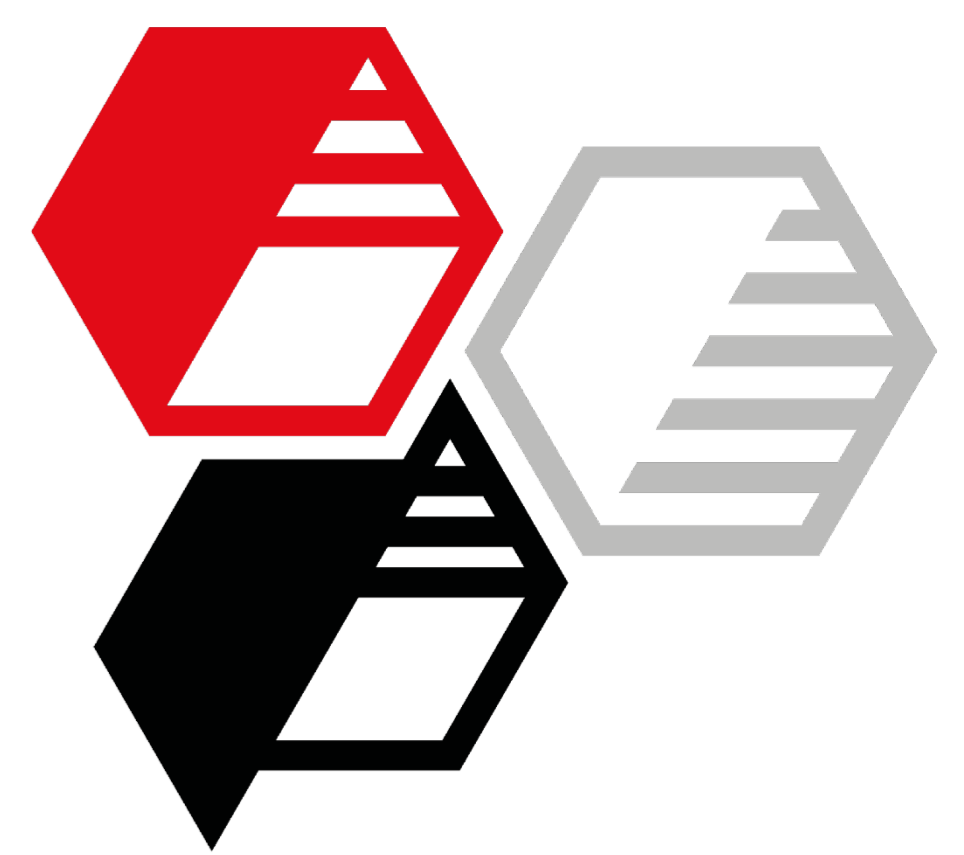
Sillitin P 87

higher gloss level, high gloss consistency even on geometrically complex structures (L-effect)

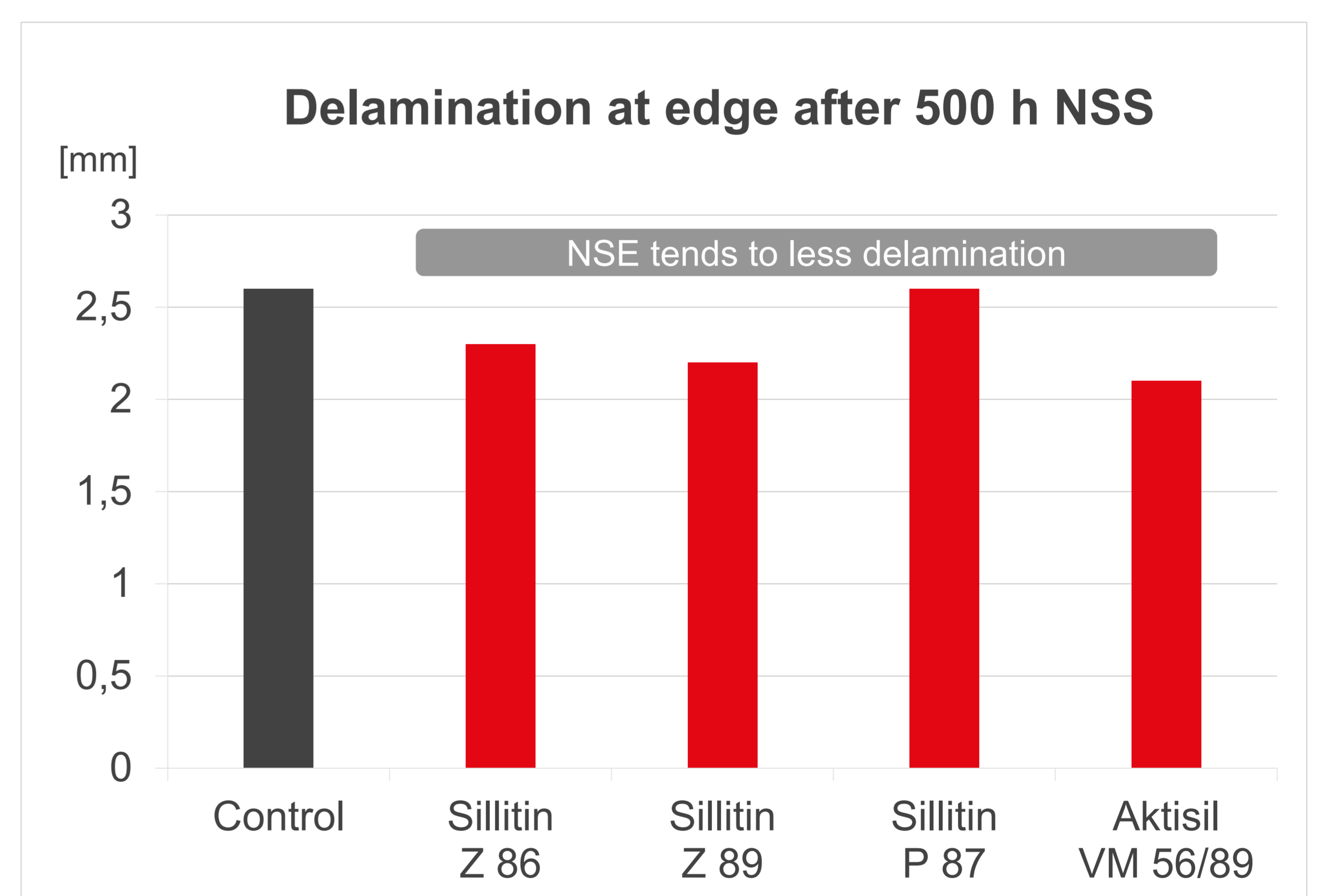
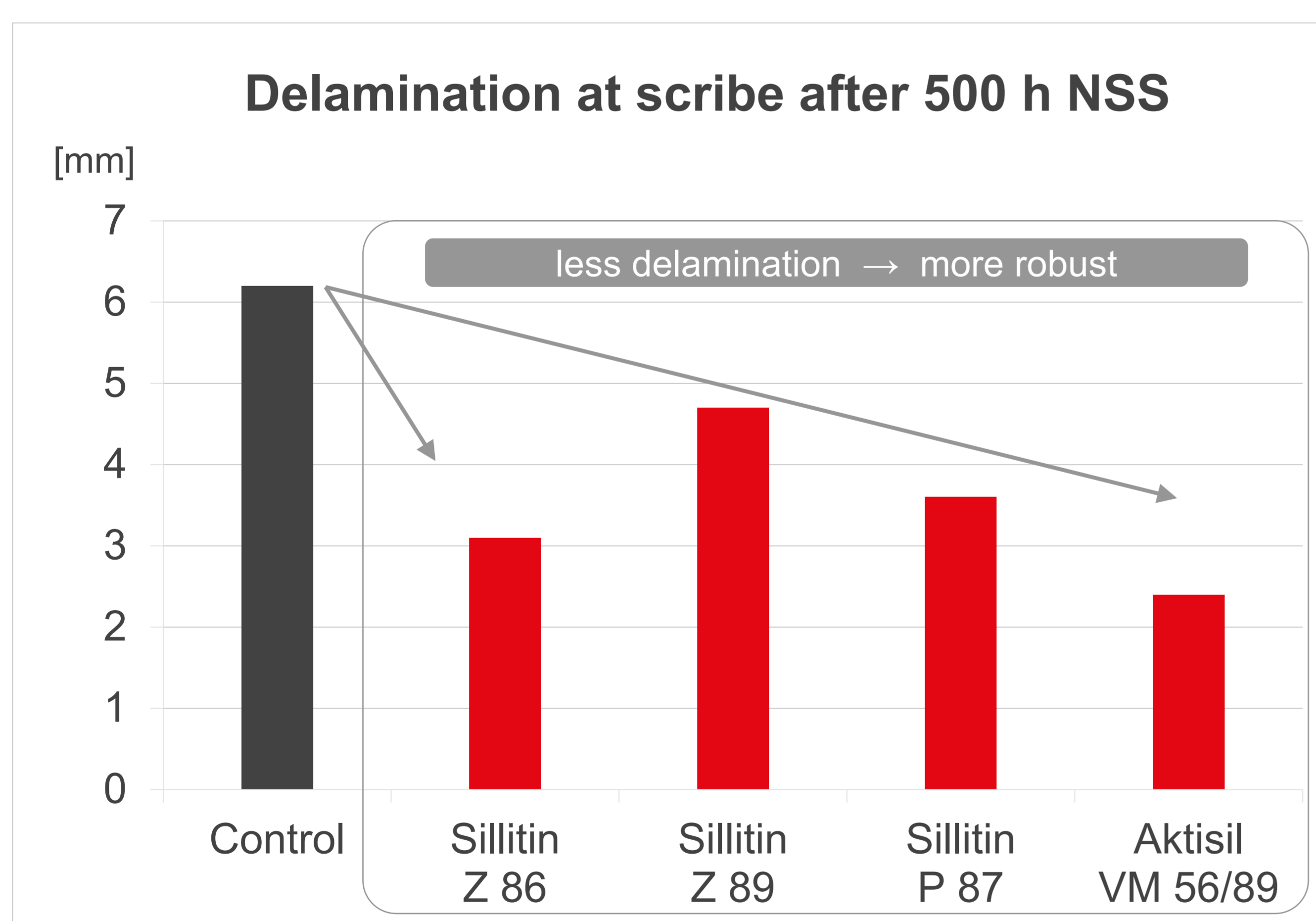
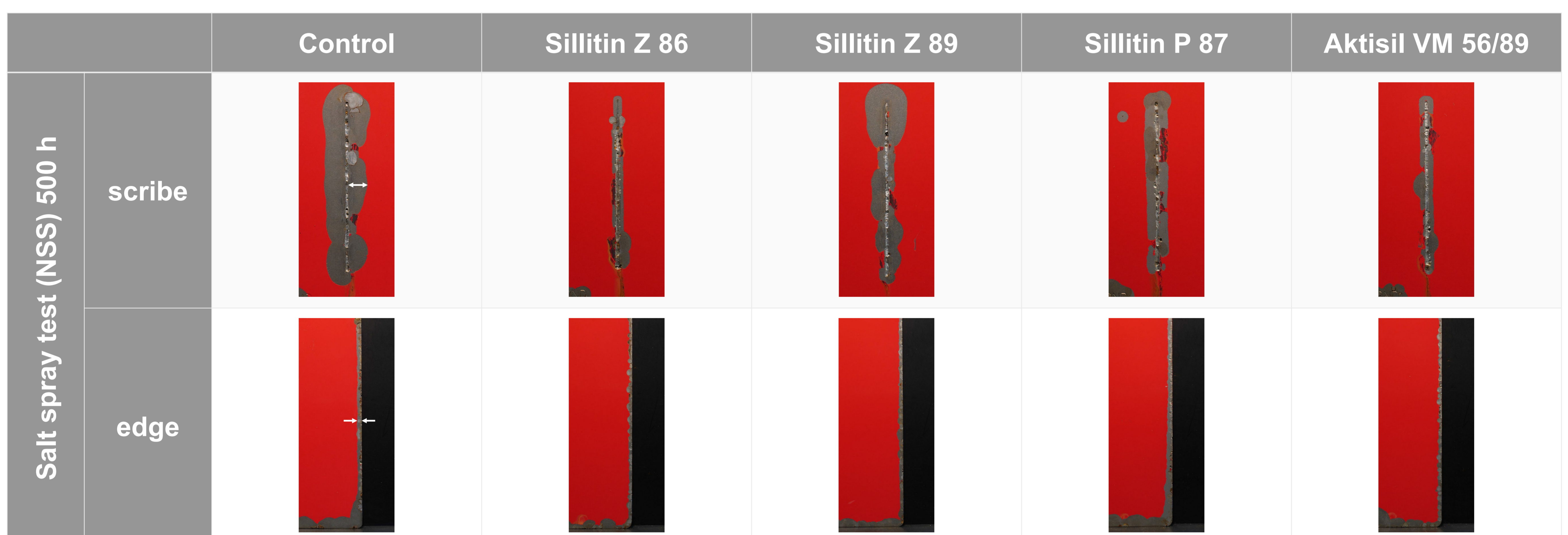
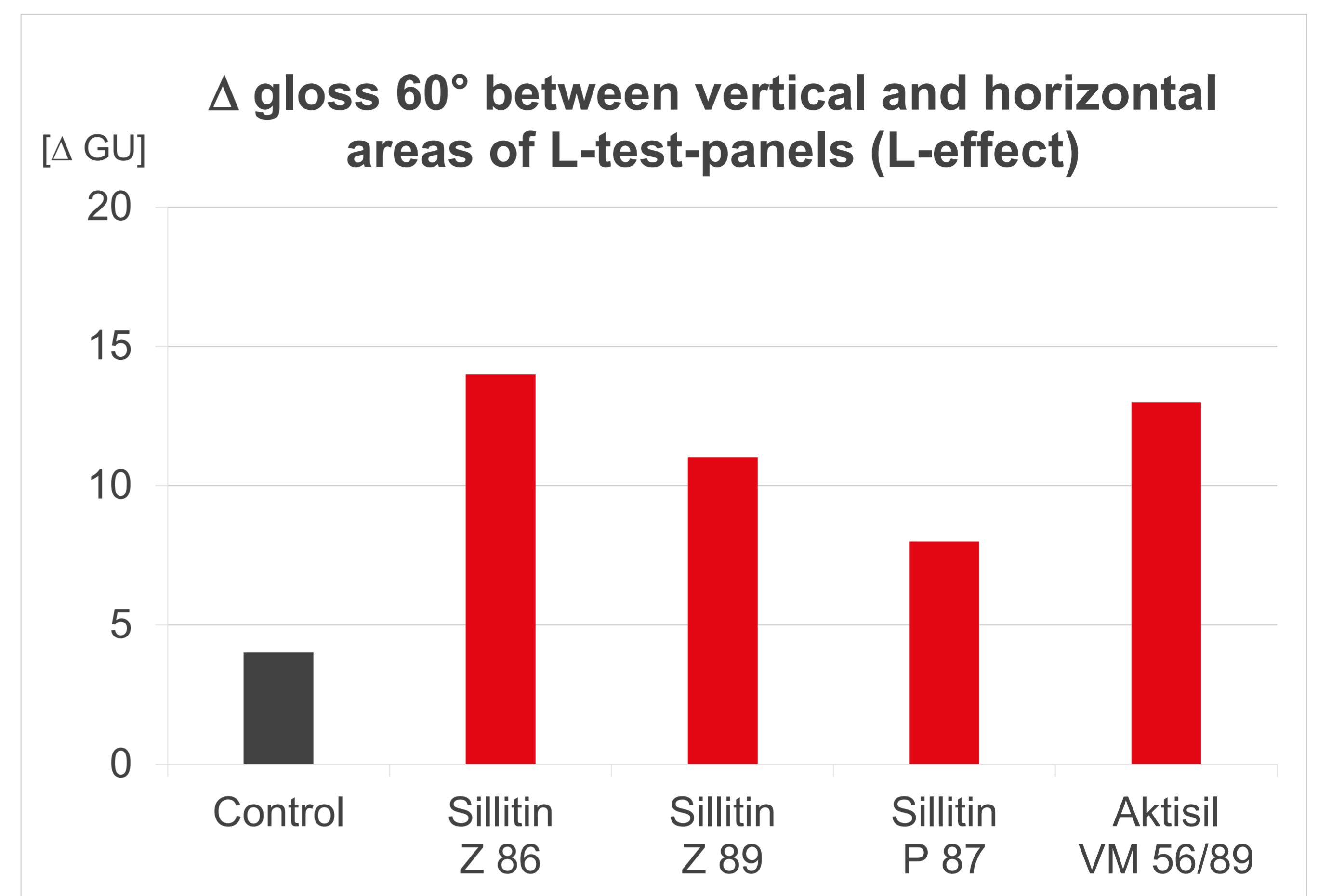
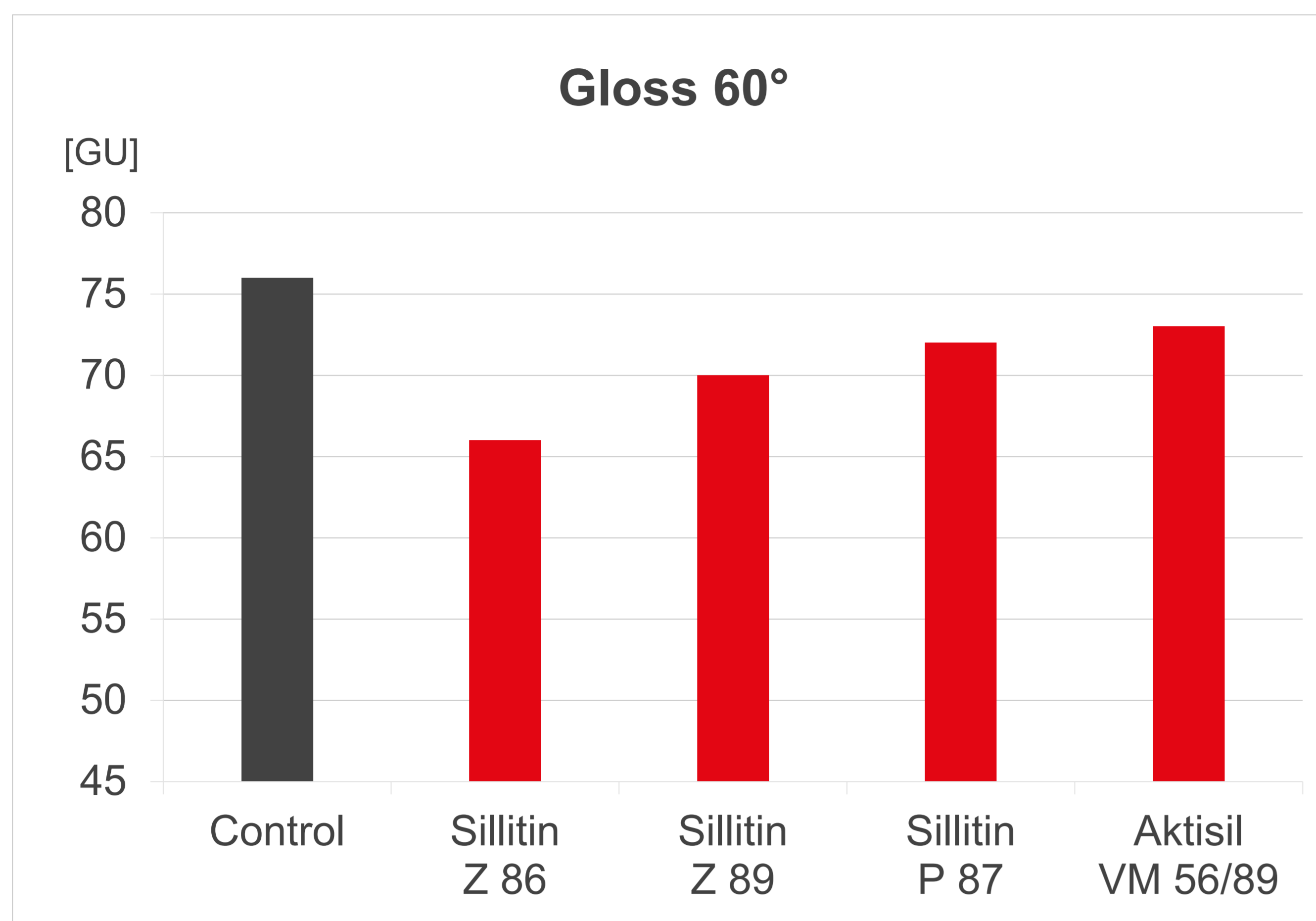
Aktisil VM 56/89

higher gloss level, also for brighter colors, improved storage stability, very low delamination at scribe and edge

Neuburg Siliceous Earth in cathodic electro deposition coatings acrylate single-layer red



Results



Retained properties

Cross-cut adhesion: 0

Pendulum hardness (Koenig): > 160 s

Cupping test: 8.3 – 6.9 mm

Humidity test 1000 h: no change, cross-cut test (directly and after 24 hours): 0

Stone-impact stress: rating 1

Impact intrusion: 50 - 60 cm

7-hole panel edge covering: similar