

# NEUBURG SILICEOUS EARTH IN ROAD MARKING PAINT WHITE, SOLVENT-BASED

## OBJECTIVE

Cost saving and performance enhancement through implementing Neuburg Siliceous Earth even with less titanium dioxide content

## FORMULATION

### Typical ROAD MARKING solvent-based white formulation \*

* Base formulation by DIC Performance Resins  ** Burnock AC 4010 (60% in Butylacetate)	Control	Full substitution NCC	Partial substitution NCC (50%) and full substitution talc	Full substitution NCC and partial substitution TiO <sub>2</sub>
Titanium dioxide	90.9	90.9	90.9	72.0 / 70.0
Talc 6 µm	22.7	22.7	-	22.7
Calcium carbonate NCC fine (5 µm)	181.8	-	90.9	-
<b>Sillitin V 88 / Z 89</b>	-	<b>175.1</b>	<b>108.6</b>	<b>187.1 / 188.3</b>
Calcium carbonate NCC coarse (15 µm)	277.3	277.3	277.3	277.3
Styrene acrylate ** solvents and additives	386.2	386.2	386.2	386.2
<b>Total</b>	<b>958.9</b>	<b>952.2</b>	<b>953.9</b>	<b>945.3 / 944.5</b>

## RESULTS AND SUMMARY

By using **Neuburg Siliceous Earth**:

- Color space is maintained
- Hiding power is improved, so that either lower film thickness can be applied or titanium dioxide concentration can be reduced  
Despite of more than 20 % lower titanium dioxide content, the hiding power remains completely preserved
- Drying time according to DIN 53150 (stage 4) is reduced between 10 and 25 min
- Abrasion resistance is improved, especially if talc is replaced

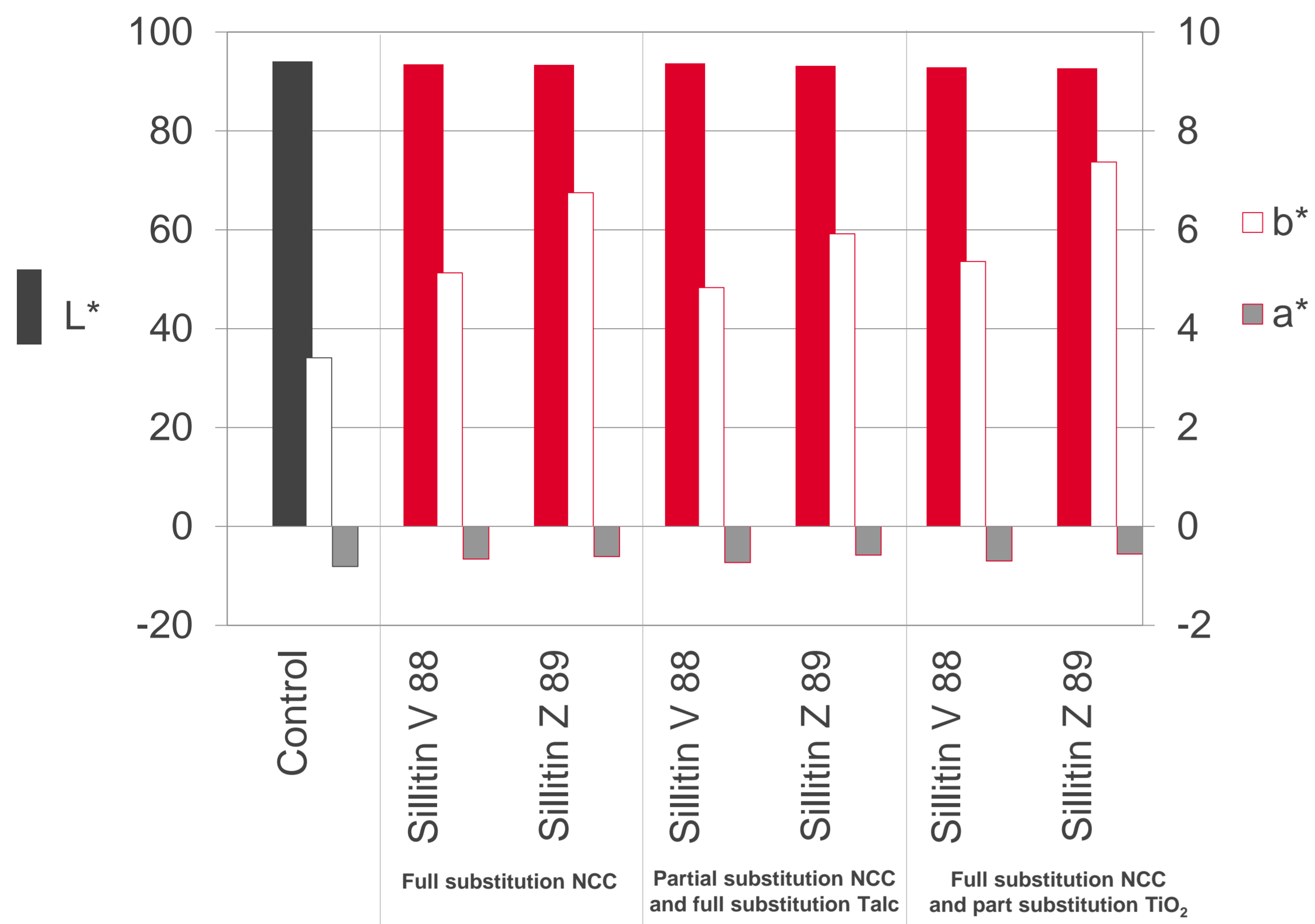
The best price performance ratio is provided by **Sillitin Z 89**, for higher color neutrality **Sillitin V 88** is recommended.

The calcined grade **Silfit Z 91** is the most suitable for highest color demands (not tested in this study).

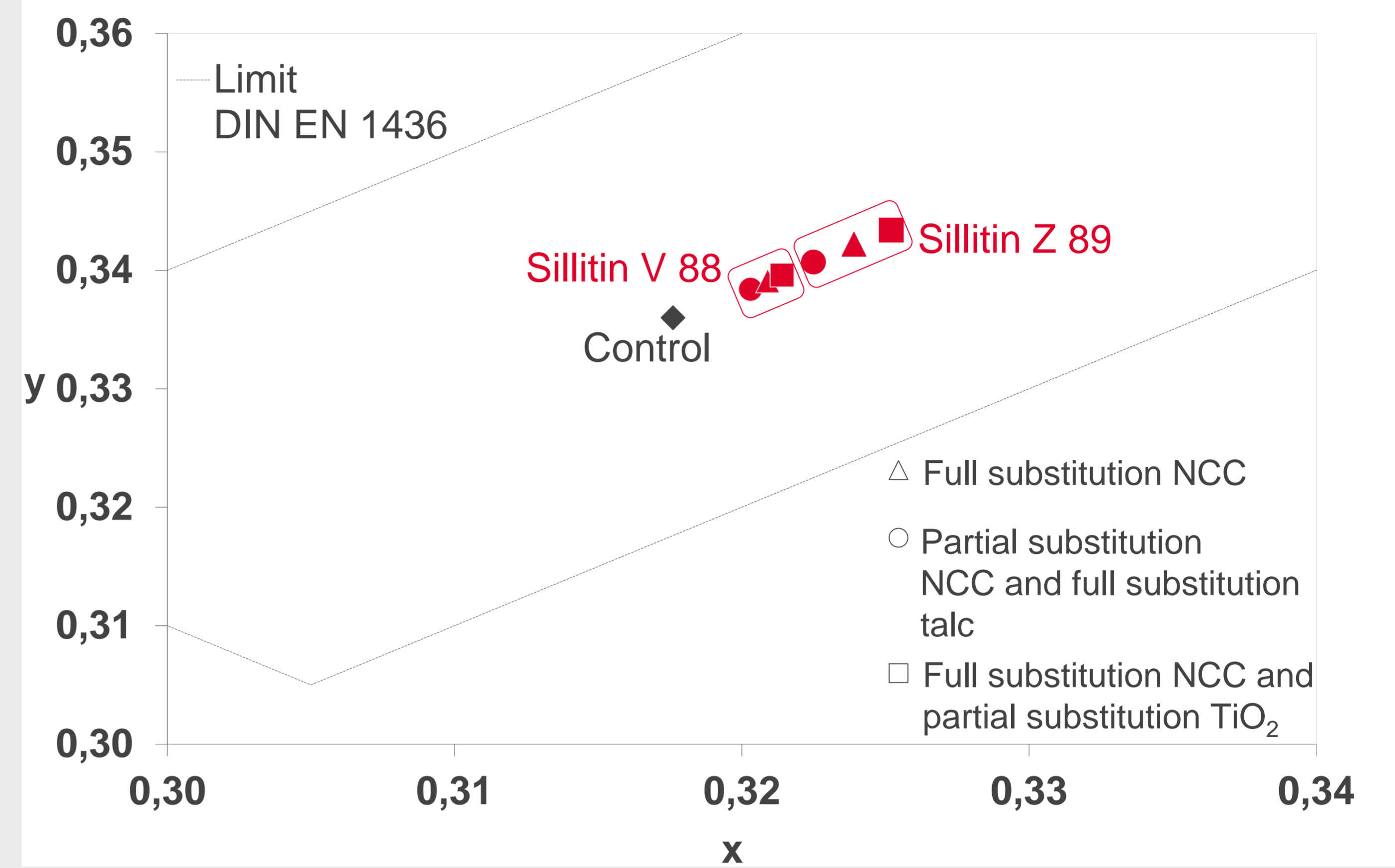
# NEUBURG SILICEOUS EARTH IN ROAD MARKING PAINT WHITE, SOLVENT-BASED

## RESULTS

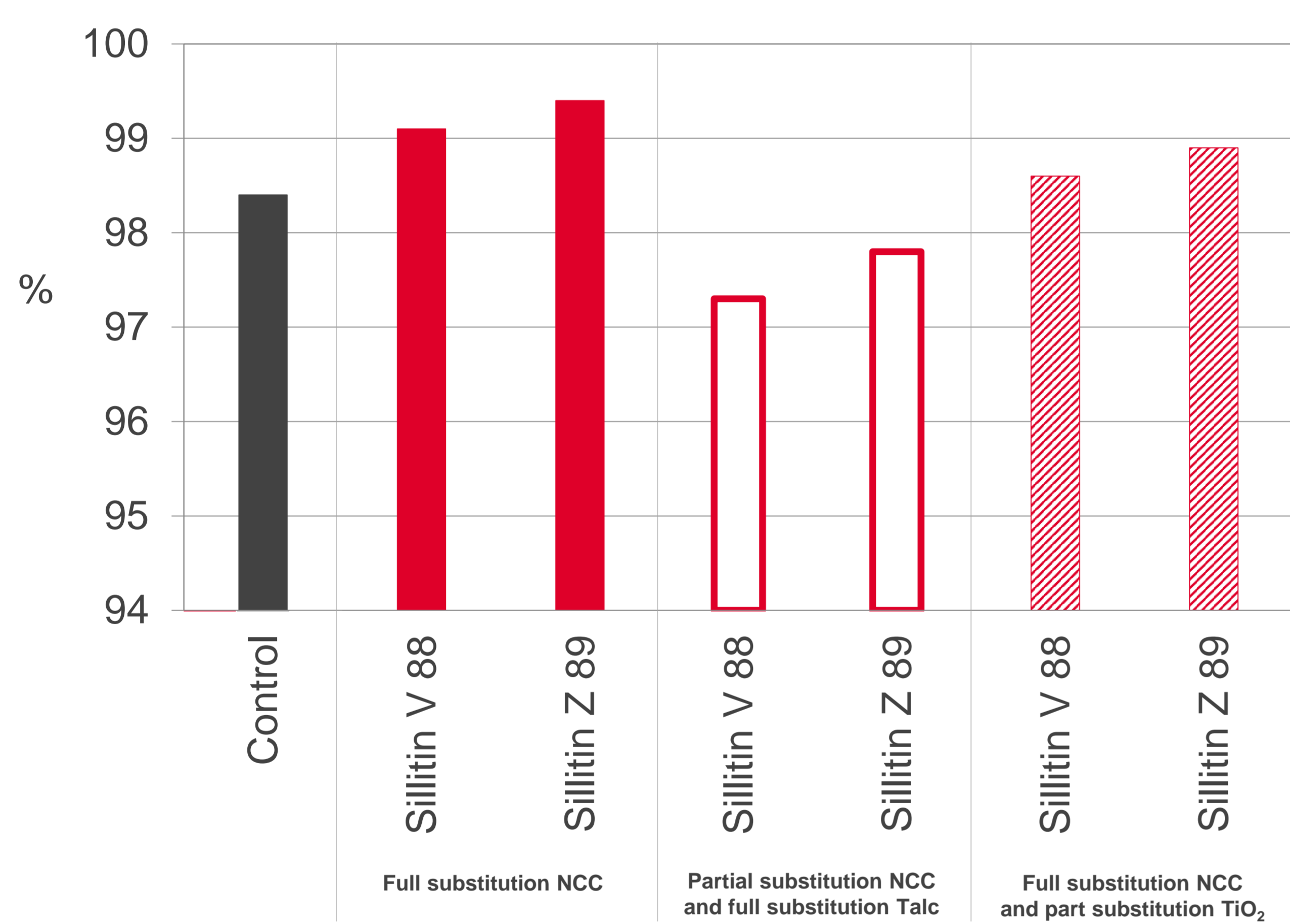
### Color 45°/0° (DFT ~ 250µm)



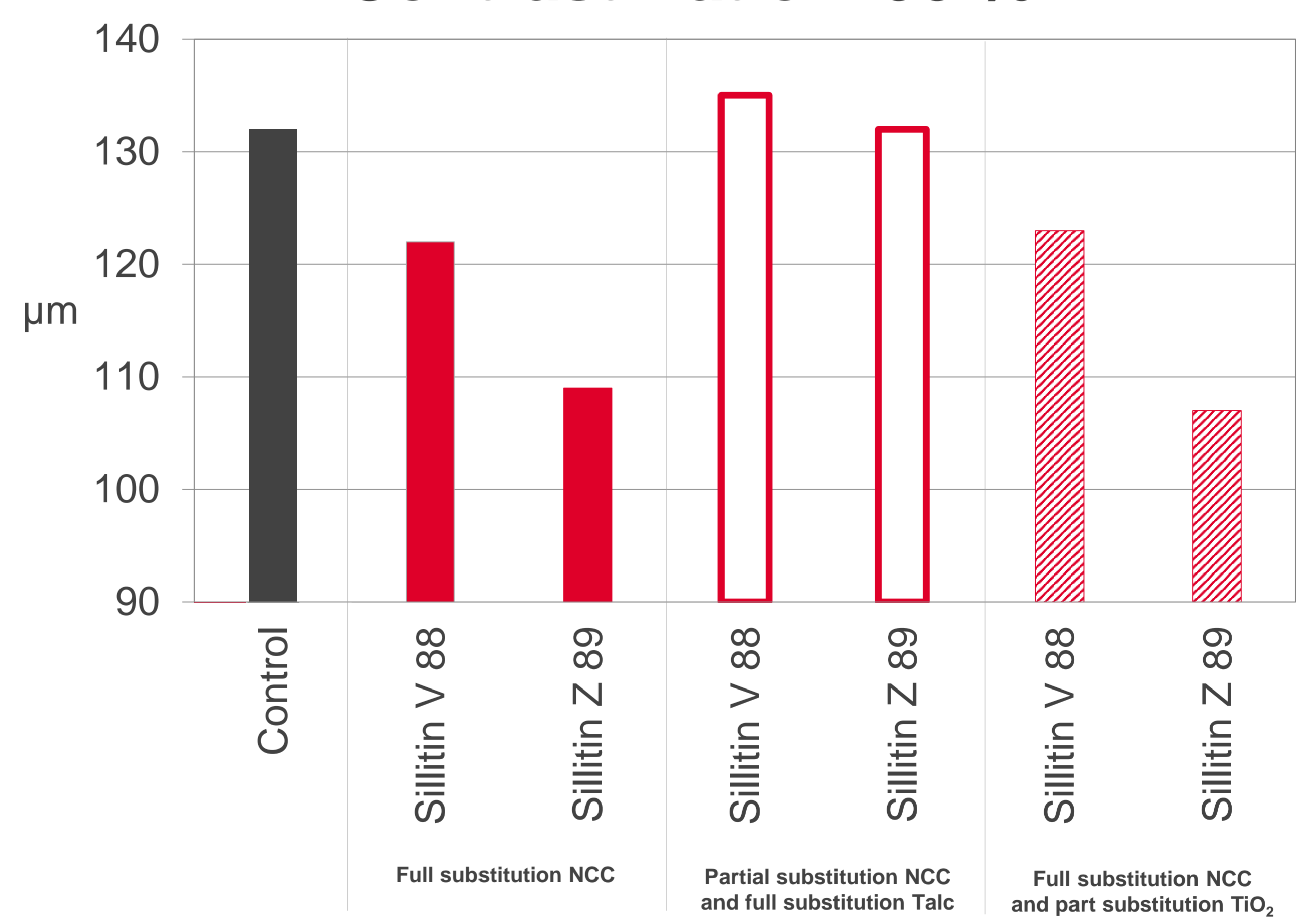
### Chromaticity Coordinates DIN EN 1436



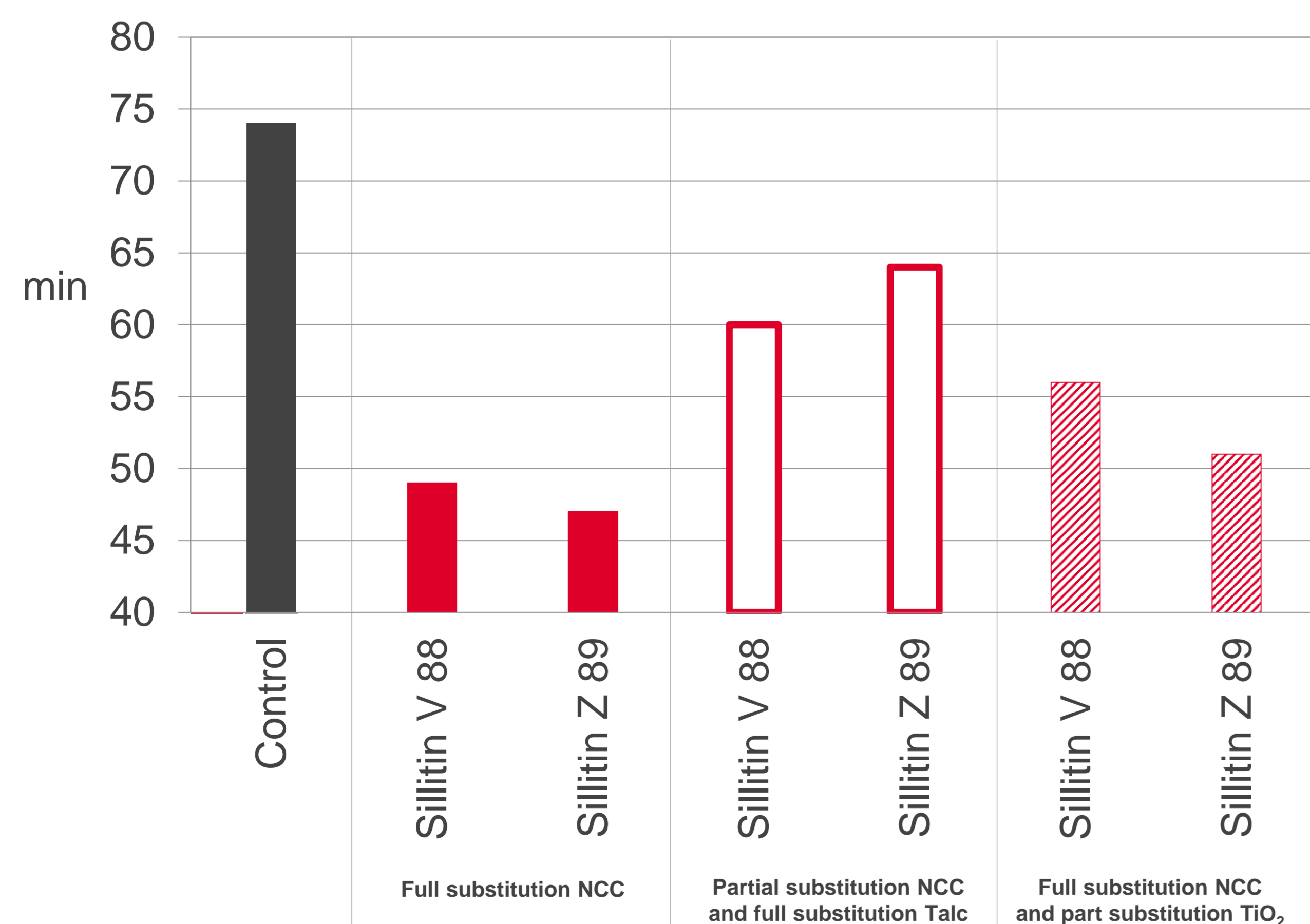
### Hiding Power (DFT ~ 250µm)



### Dry Film Thickness for Contrast Ratio = 98 %



### Drying Time DIN 53150 (stage 4)



### Abrasion Loss ASTM D 4060 (CS 17, 1 kg, 1000 revs)

