

# Non-black fillers in SBR

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## Non-black Fillers in SBR

### Test Compound

<b>SBR 1502, 23.5 % Styrene, ML (1+4) 100 °C approx. 50<sup>1</sup></b>	<b>100</b>
<b>Zinc oxide<sup>2</sup></b>	<b>5</b>
<b>Stearic acid</b>	<b>1</b>
<b>Filler</b>	<b>120/60</b>
<b>Paraffinic oil<sup>3</sup></b>	<b>5</b>
<b>Tetramethylthiuramdisulfide<sup>4</sup></b>	<b>2</b>
<b>N-Cyclohexyl-2-benzothiazolesulfenamide<sup>5</sup></b>	<b>1</b>
<b>Sulfur<sup>6</sup></b>	<b>0.5</b>

Curing was carried out in a press at 150 °C.  
The curing time was  $t_{90} + 10$  %.

Please mind! The following figures show  
trend analysis, which only can be the basis  
for specific problem solvings.

Filler:	Loading:
Precipitated Silica	60 phr
Precipitated Silicates	60 phr
All others	120 phr
Open mill	150 x 300 mm
Batch	400 cm <sup>3</sup>
Temperature	30 °C
Time of mixing	15 min

#### Applied in this test compound:

- (1) Buna EM 1502, Degussa-Hüls
- (2) Zinkoxyd aktiv, Bayer
- (3) Sunpar 2280, Sun Oil Company
- (4) Perkacit TMTD, Flexsys
- (5) Perkacit CBS, Akzo
- (6) Mahlschwefel 90/95°, Solvay

## Contents

### Properties of Raw Compound

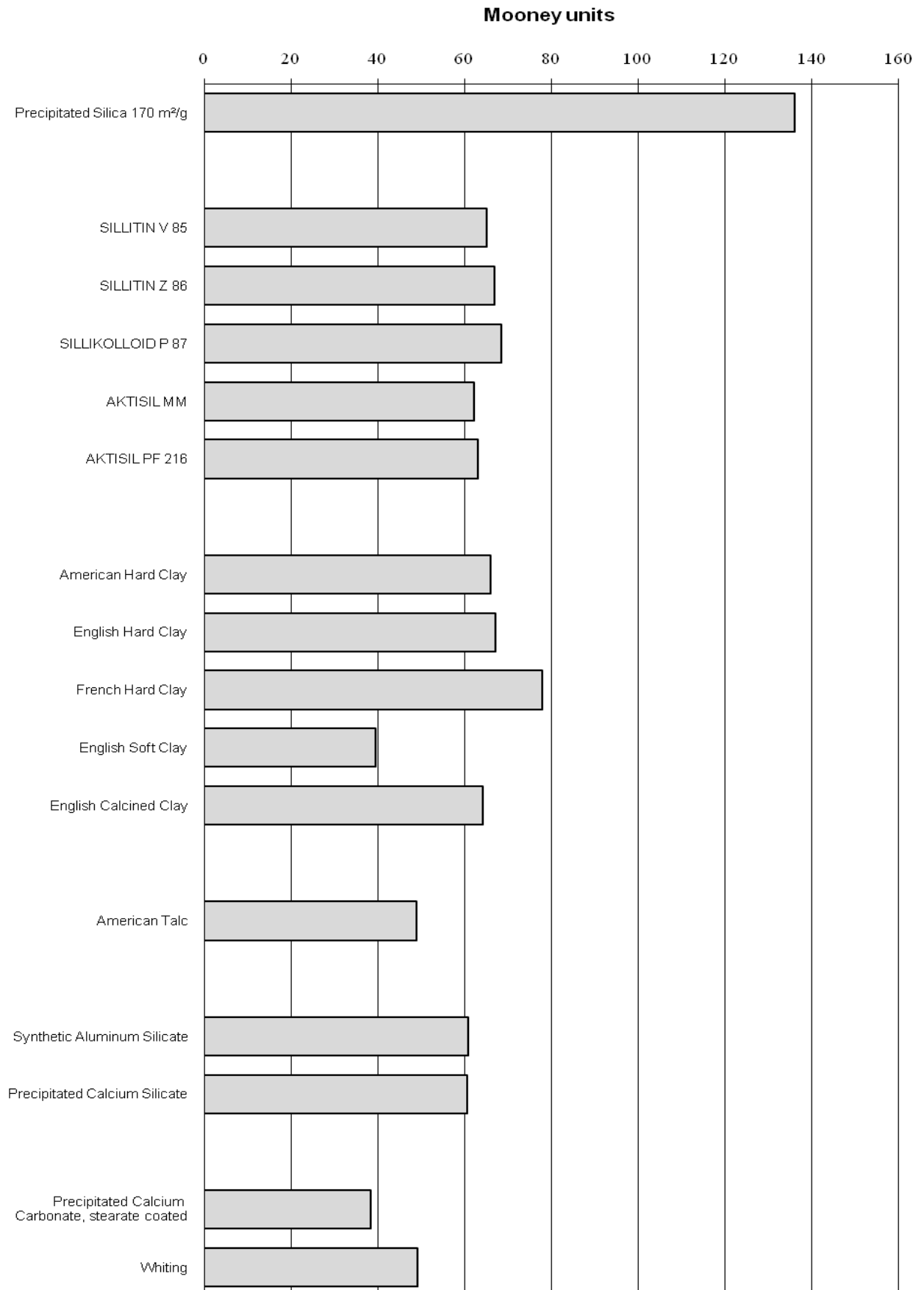
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### Properties of Vulcanizate

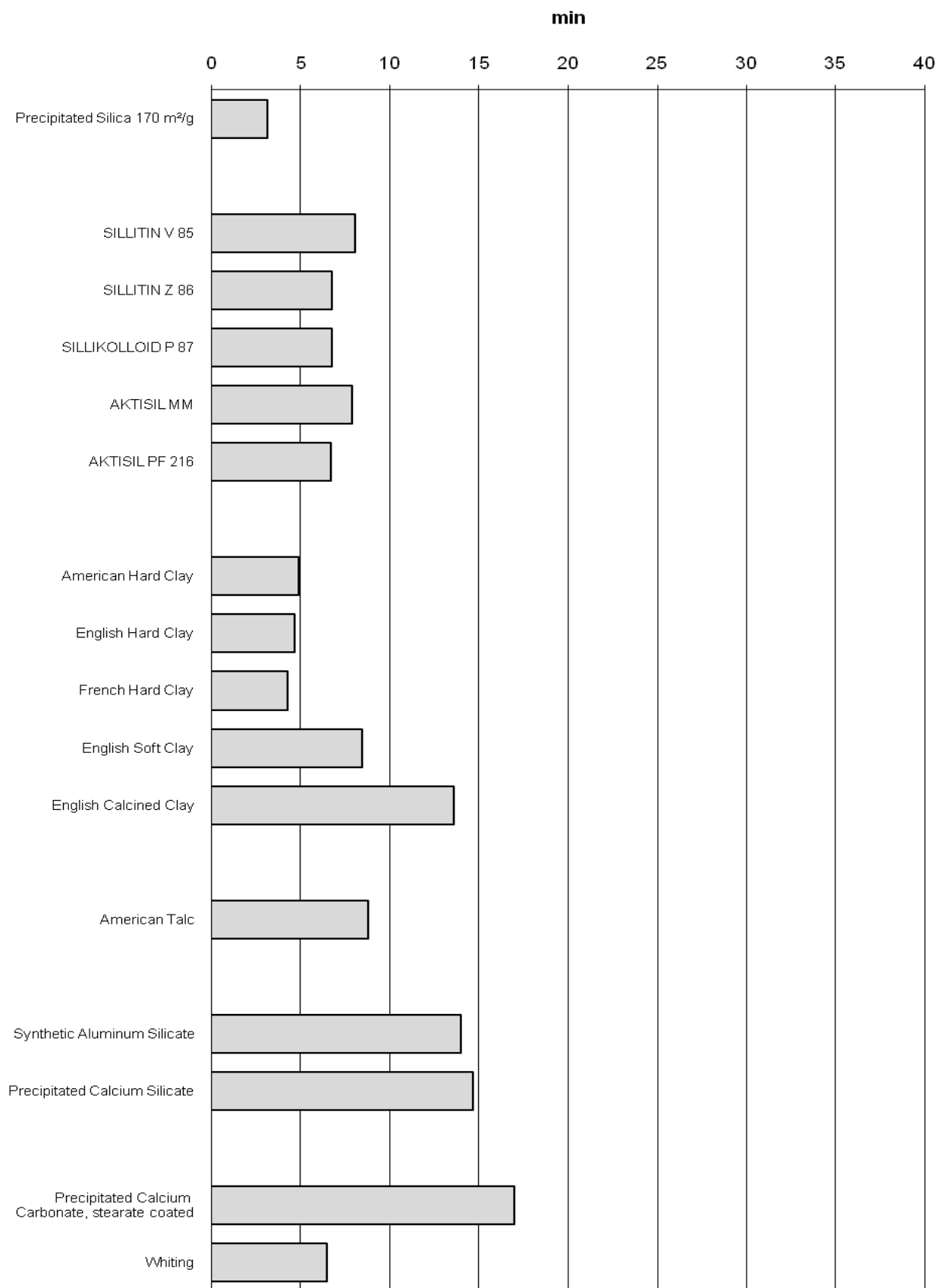
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# MOONEY VISCOSITY ML (1+4) at 120 °C DIN 53 523, Part 3

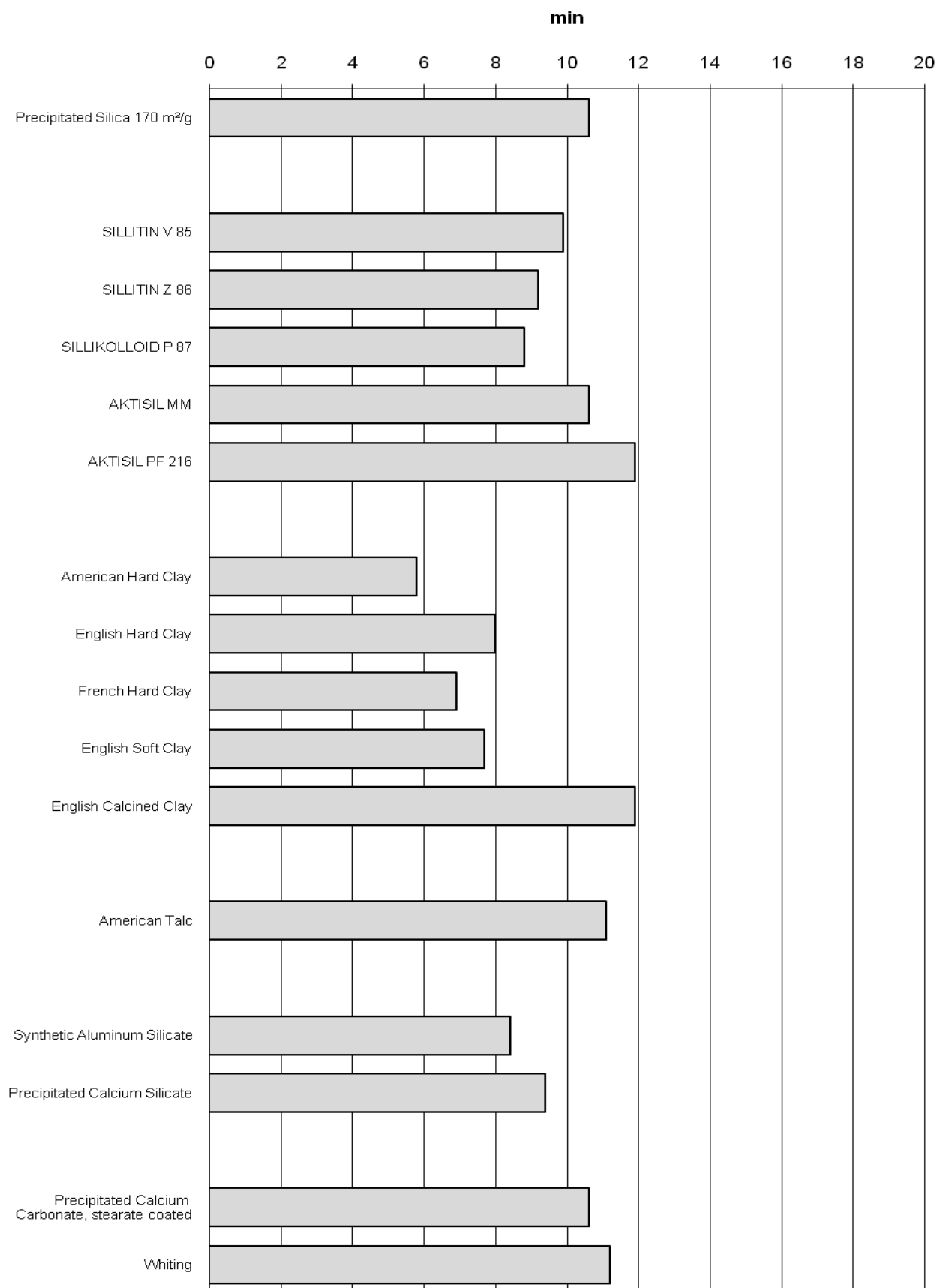


# **MOONEY SCORCH $t_5$ (ML) at 120 °C** **DIN 53 523, Part 4**

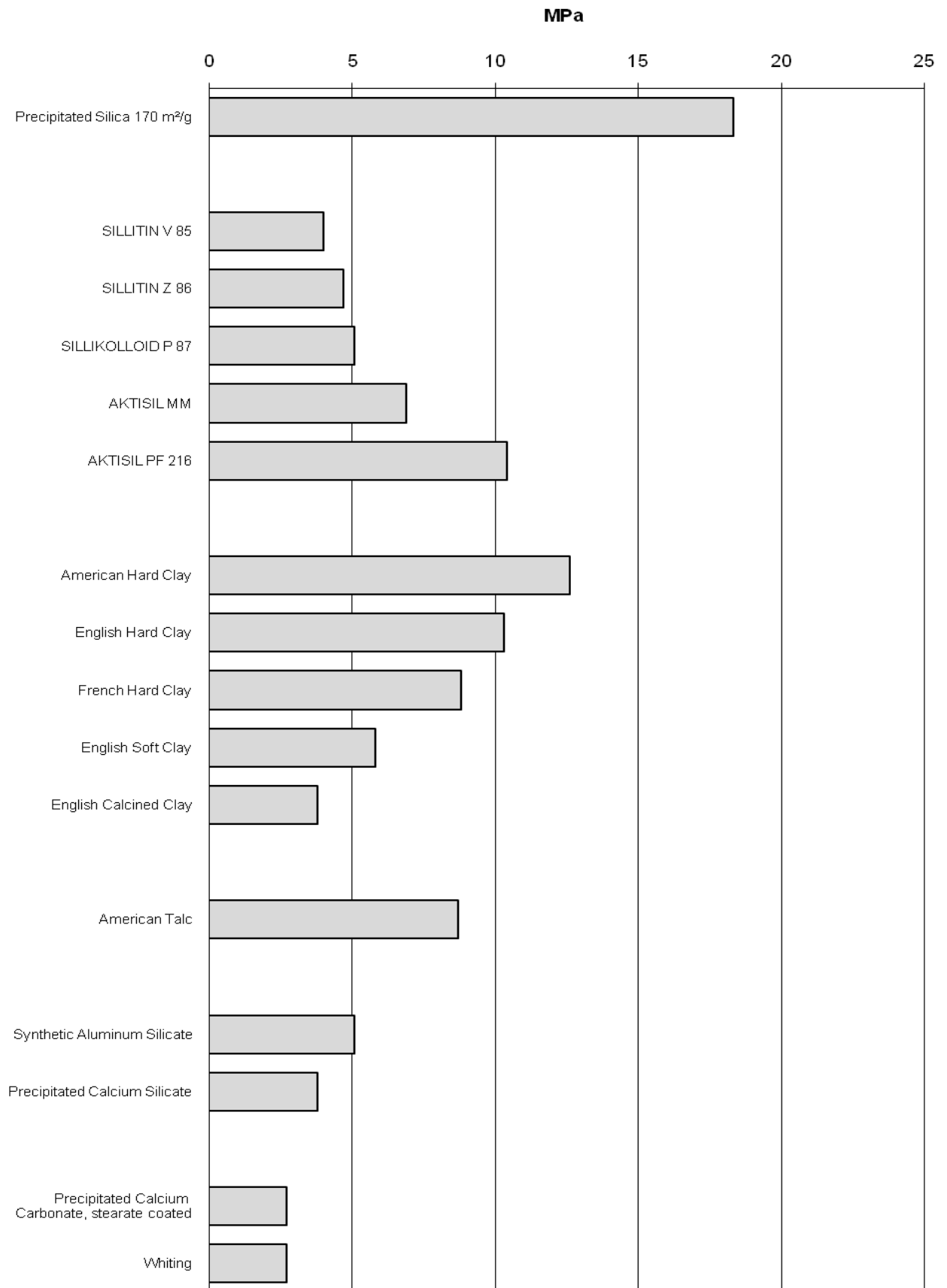


# **Rotorless Cure Meter, Frank**

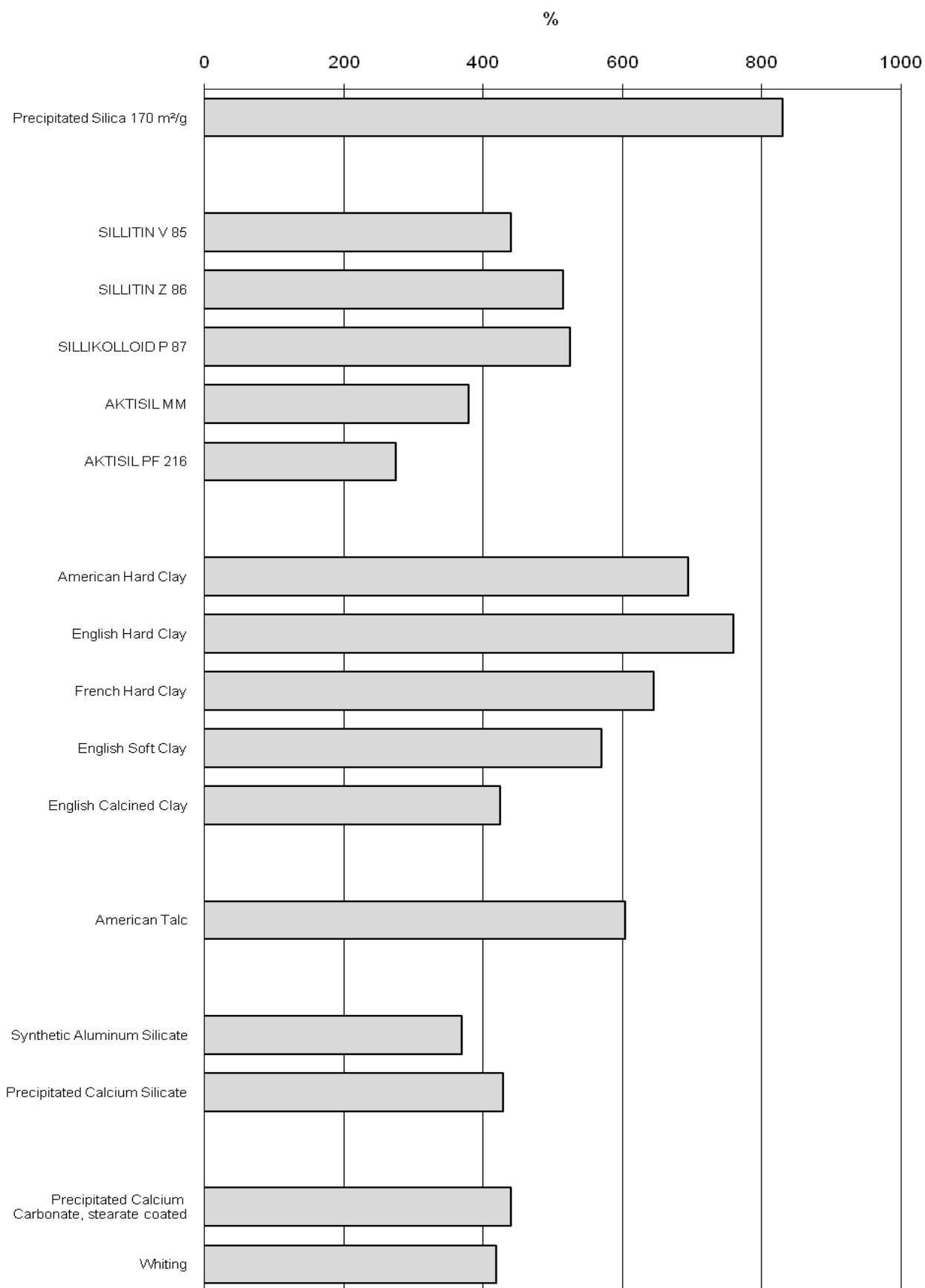
**$t_{90}$  at 150 °C  
DIN 53 529-A3**



# TENSILE STRENGTH DIN 53 504-S2

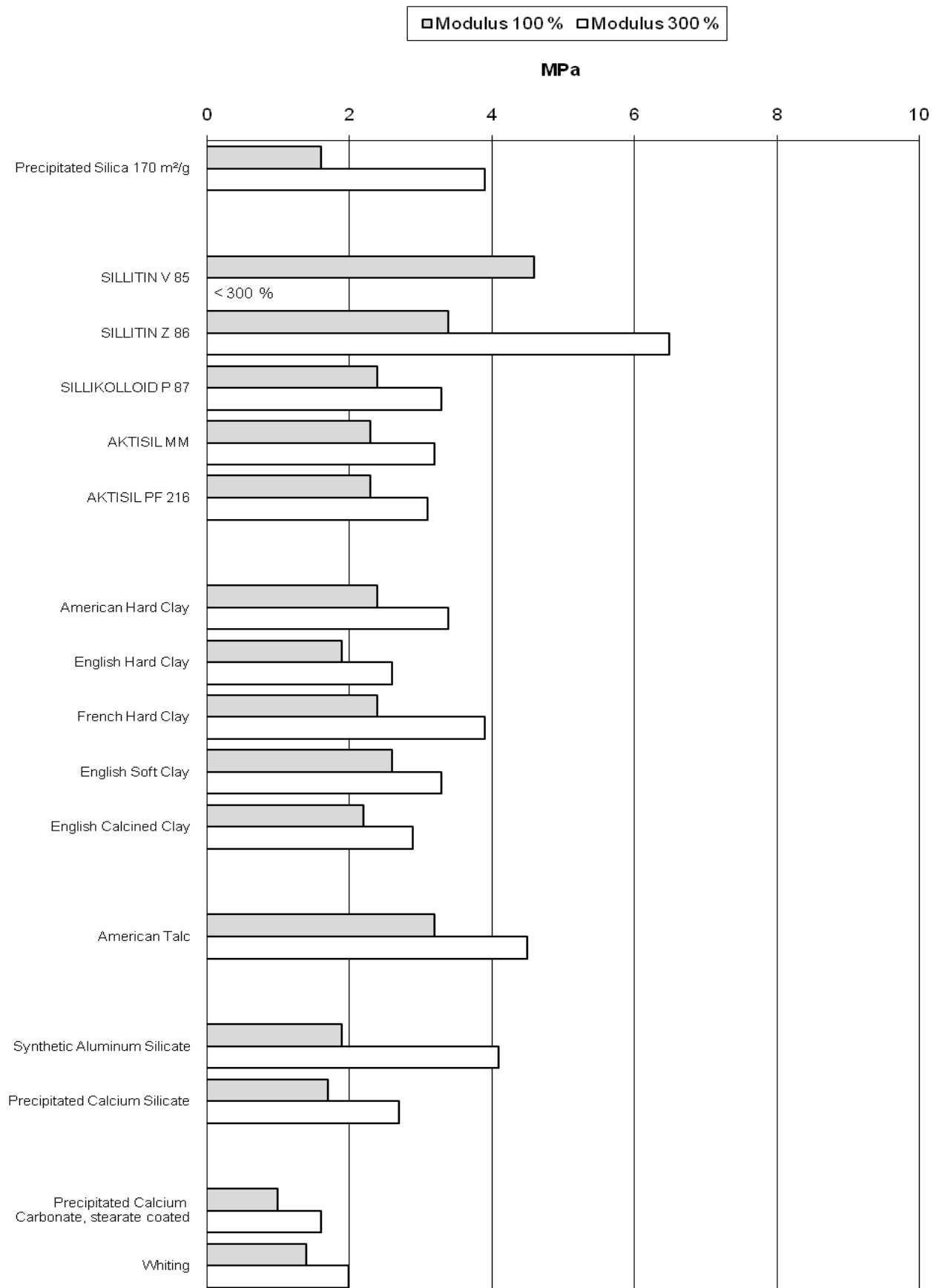


# **ELONGATION AT BREAK DIN 53 504-S2**

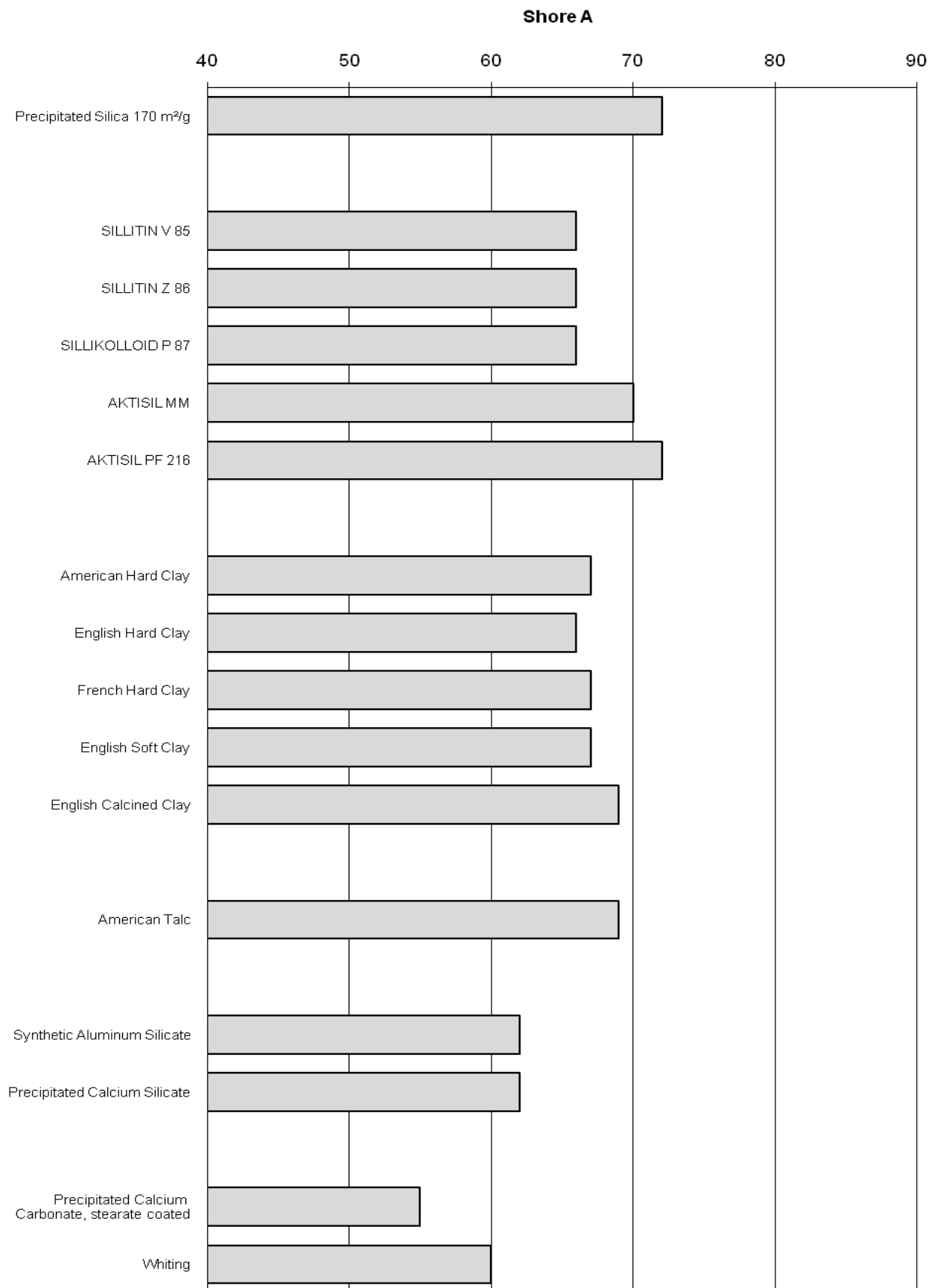




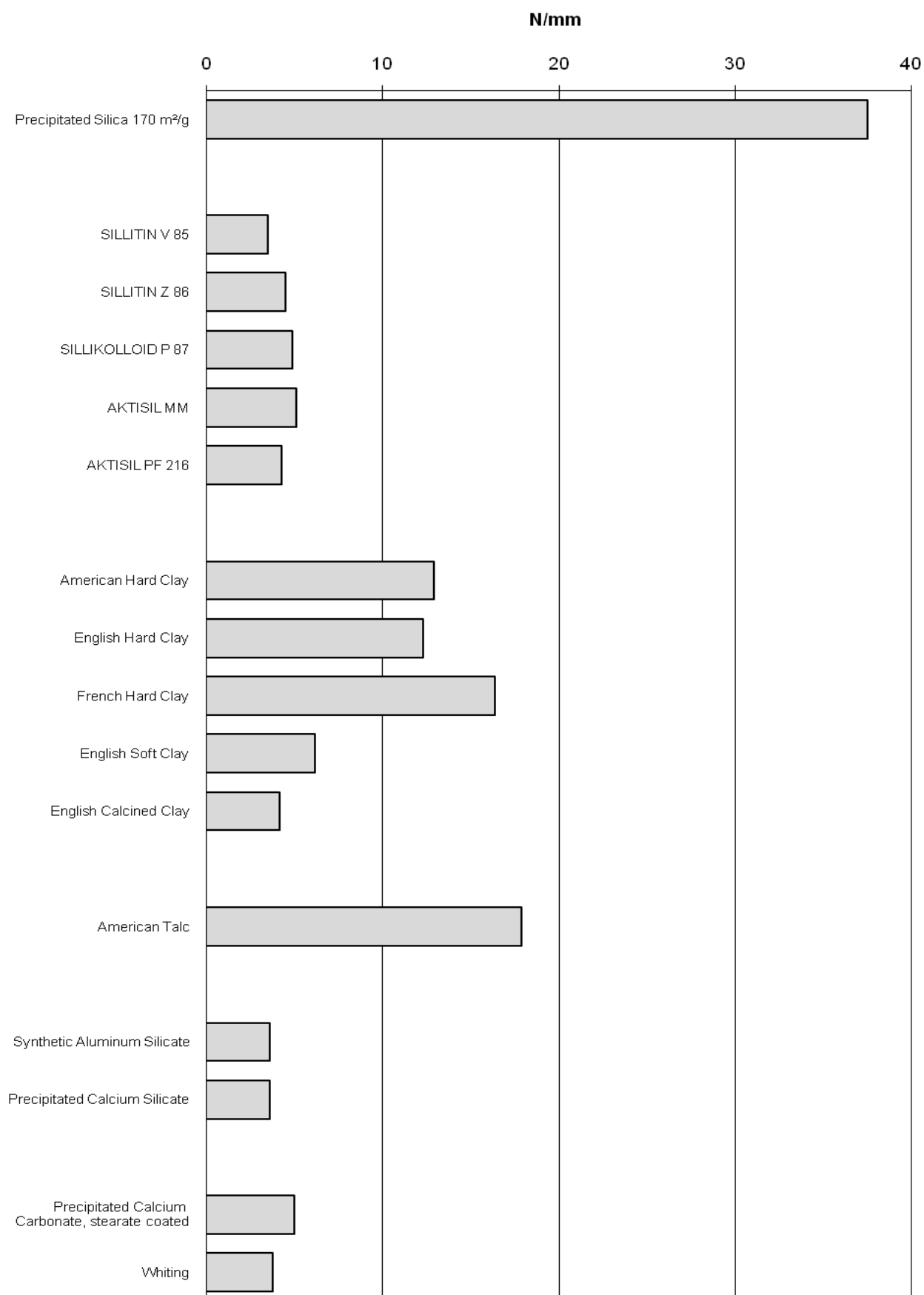
# MODULUS DIN 53 504-S2



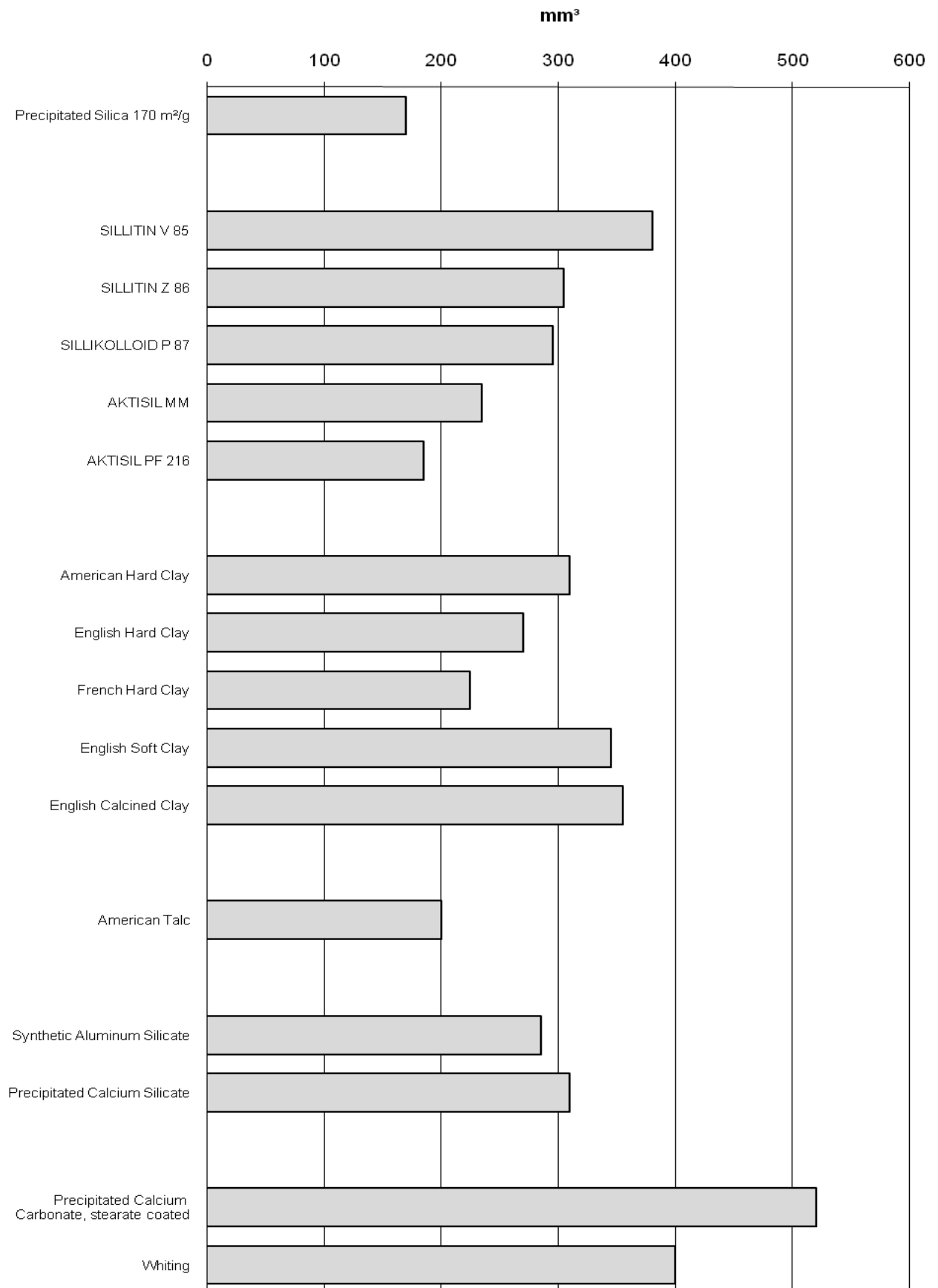
# HARDNESS DIN 53 505



# TEAR RESISTANCE DIN 53 507-A, 500 mm/min



# ABRASION DIN 53 516



# COMPRESSION SET DIN 53 517-A

