HOFFMANN MINERAL
Unternehmensgruppe Hoffmann

# Non-black fillers in SBR

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# Non-black Fillers in SBR

## Test Compound

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

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 cm³ |
| 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

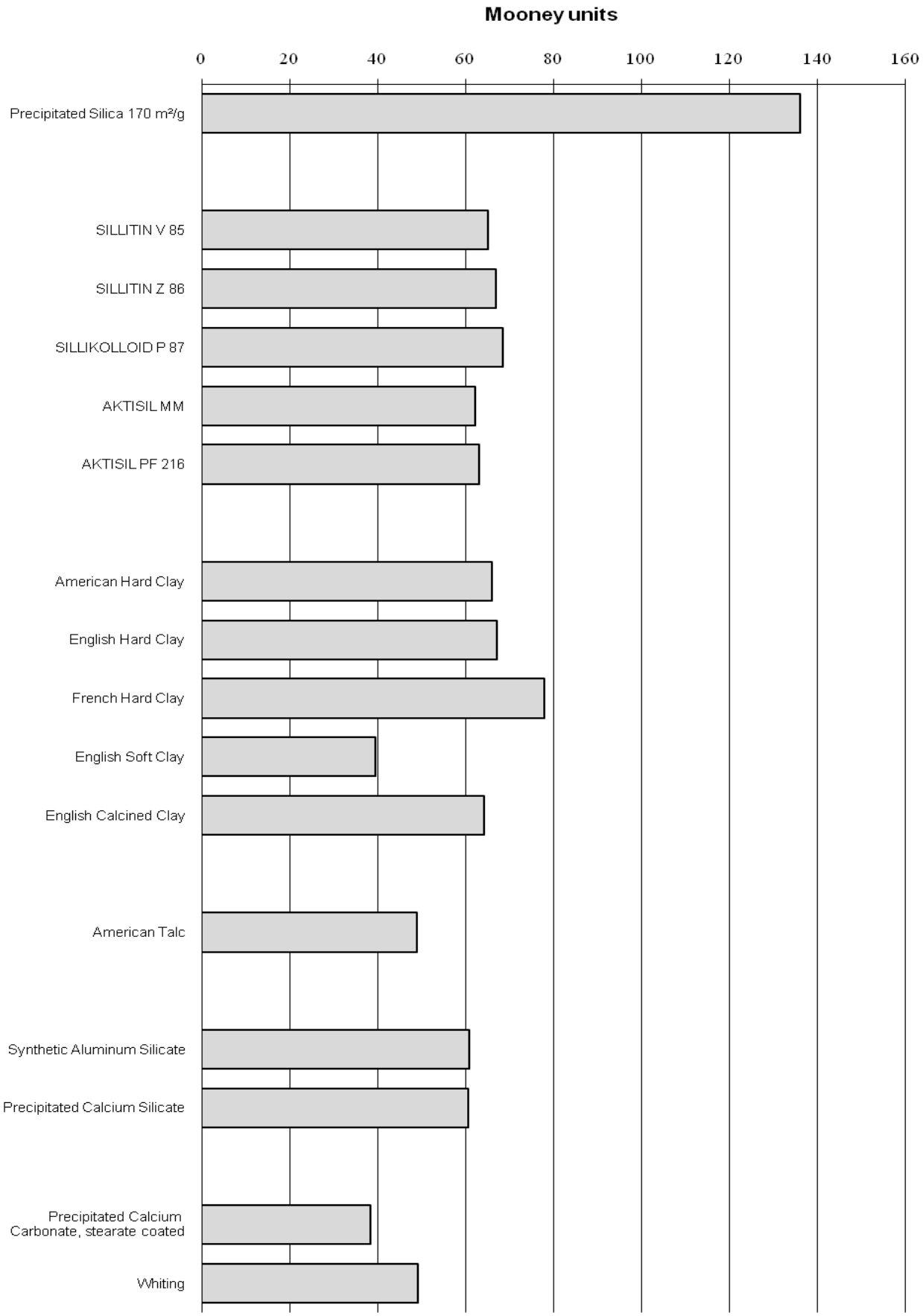
# Contents

Properties of Raw Compound

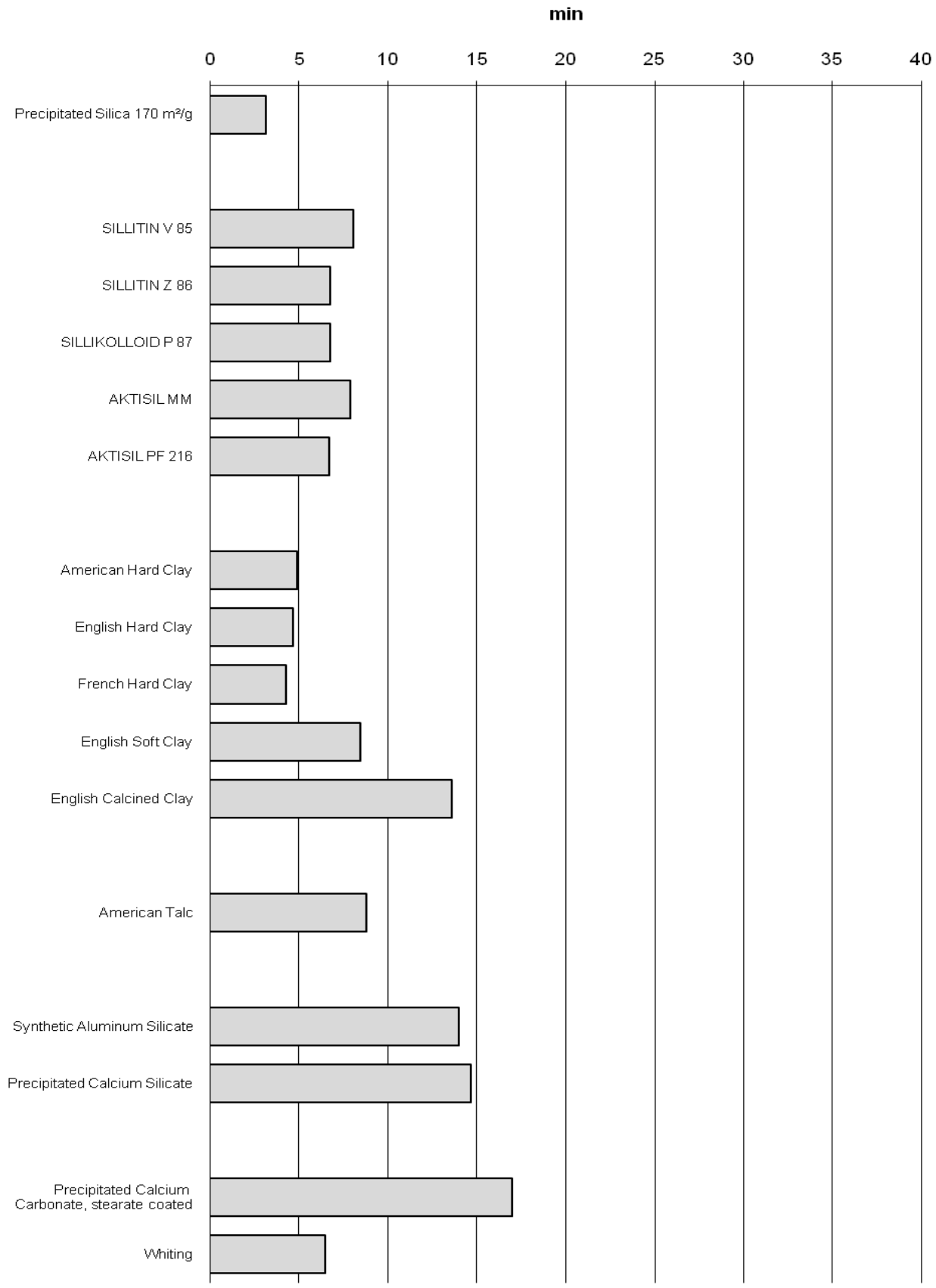


Properties of Vulcanizate

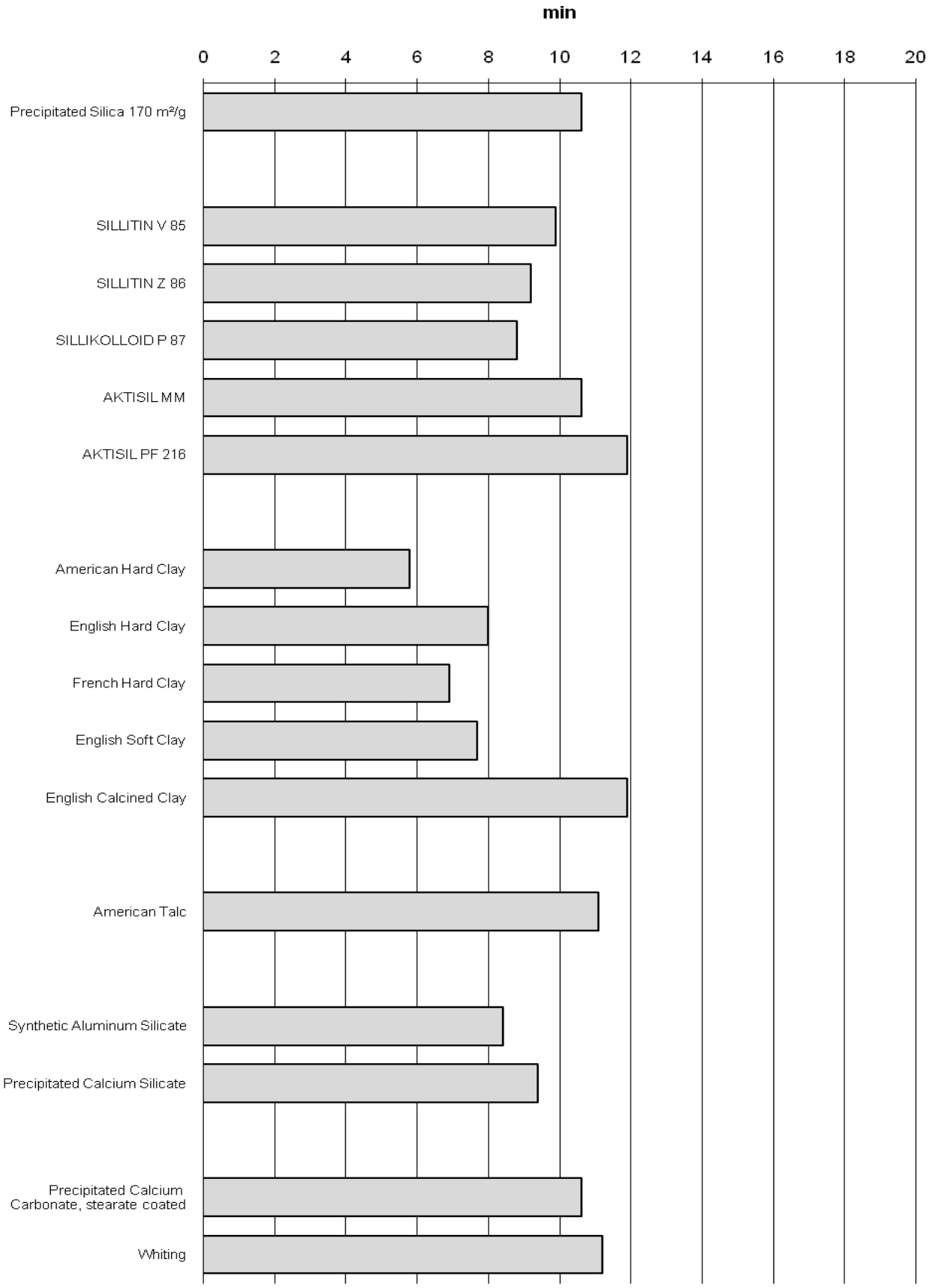
# MOONEY VISCOSITY ML (1+4) at 120 °C
# DIN 53 523, Part 3



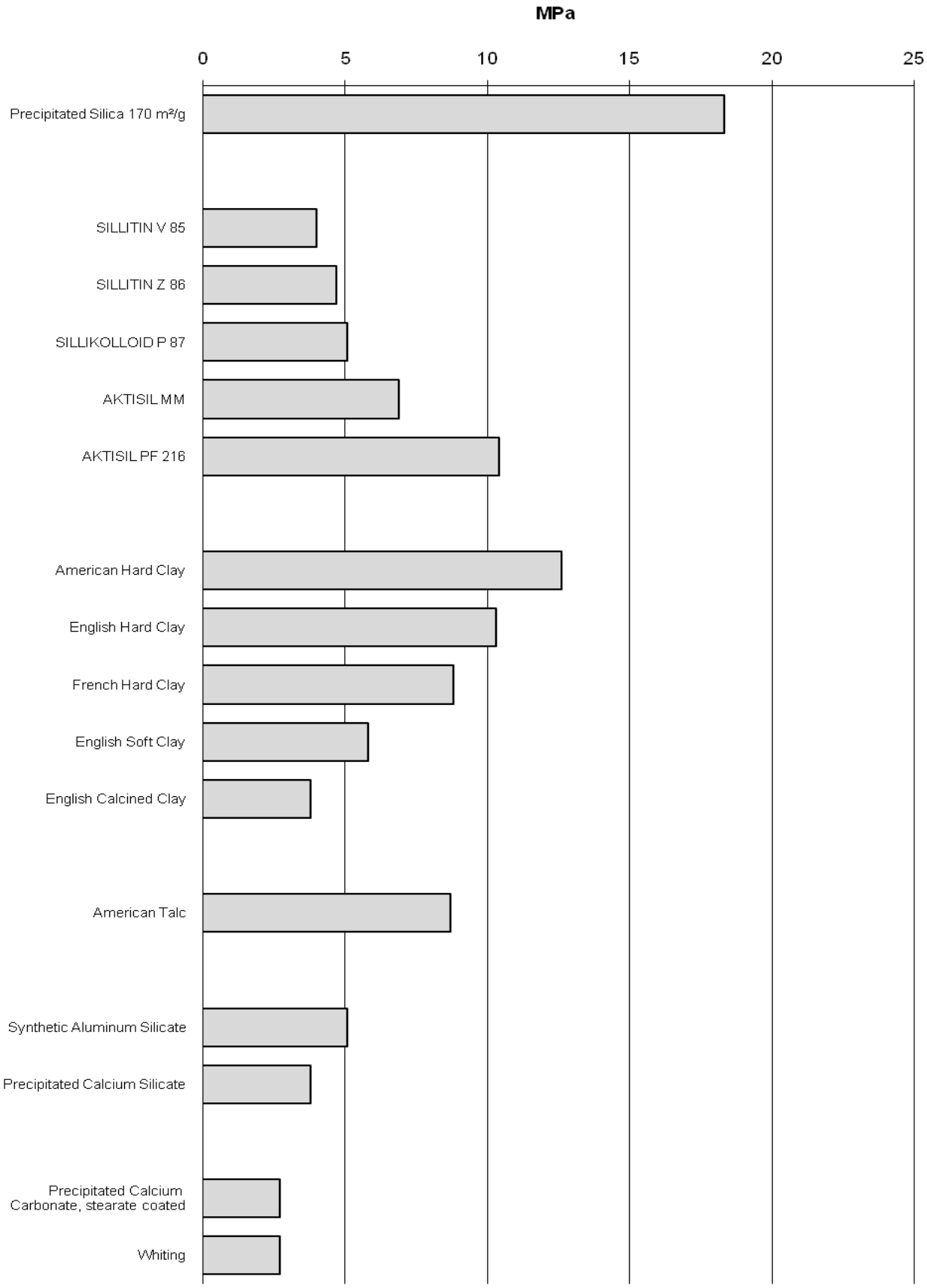
# MOONEY SCORCH $t_5$ (ML) at 120 °C
# DIN 53 523, Part 4



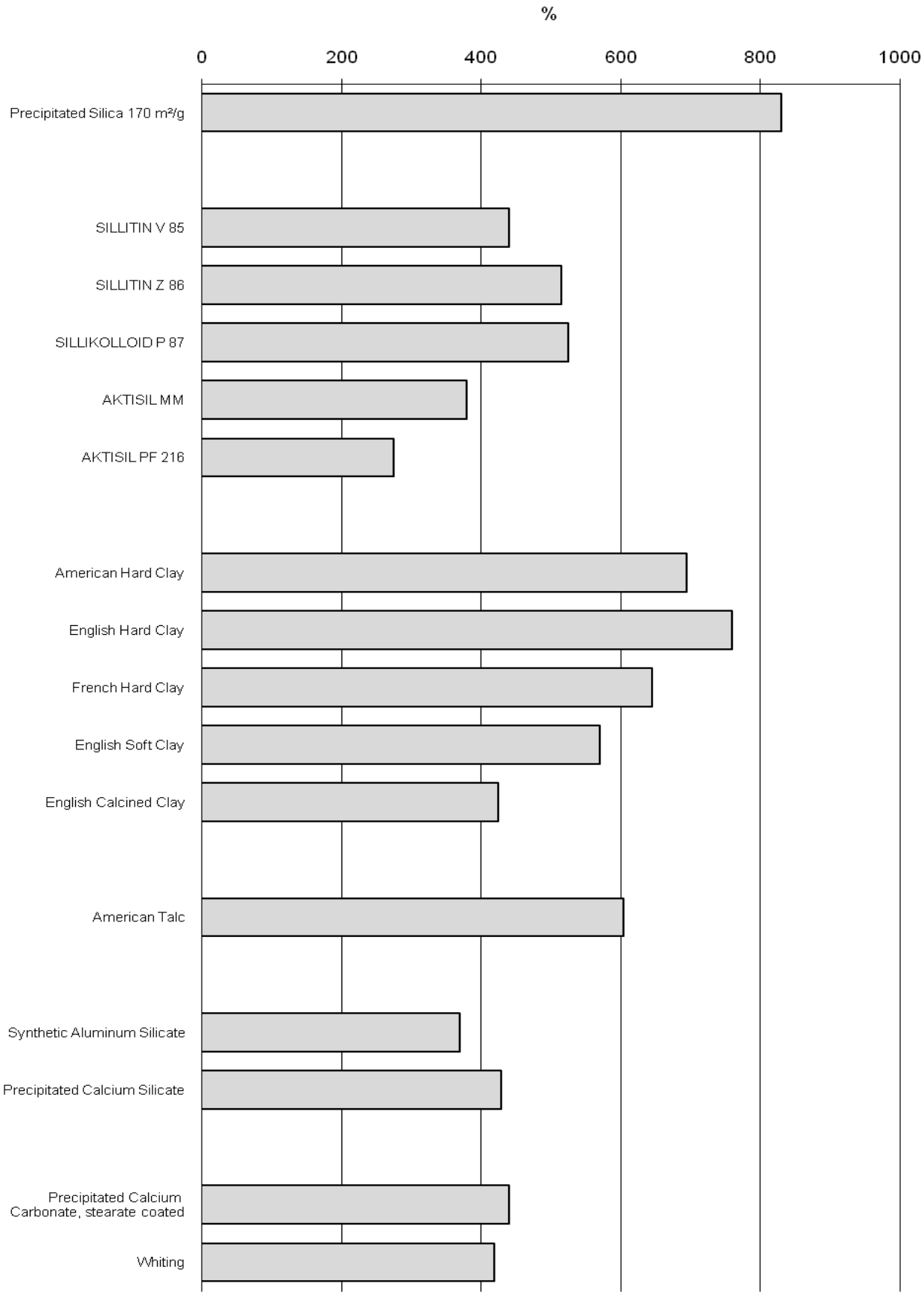
## Rotorless Cure Meter, Frank
## $t_{90}$ at 150 °C
## DIN 53 529-A3



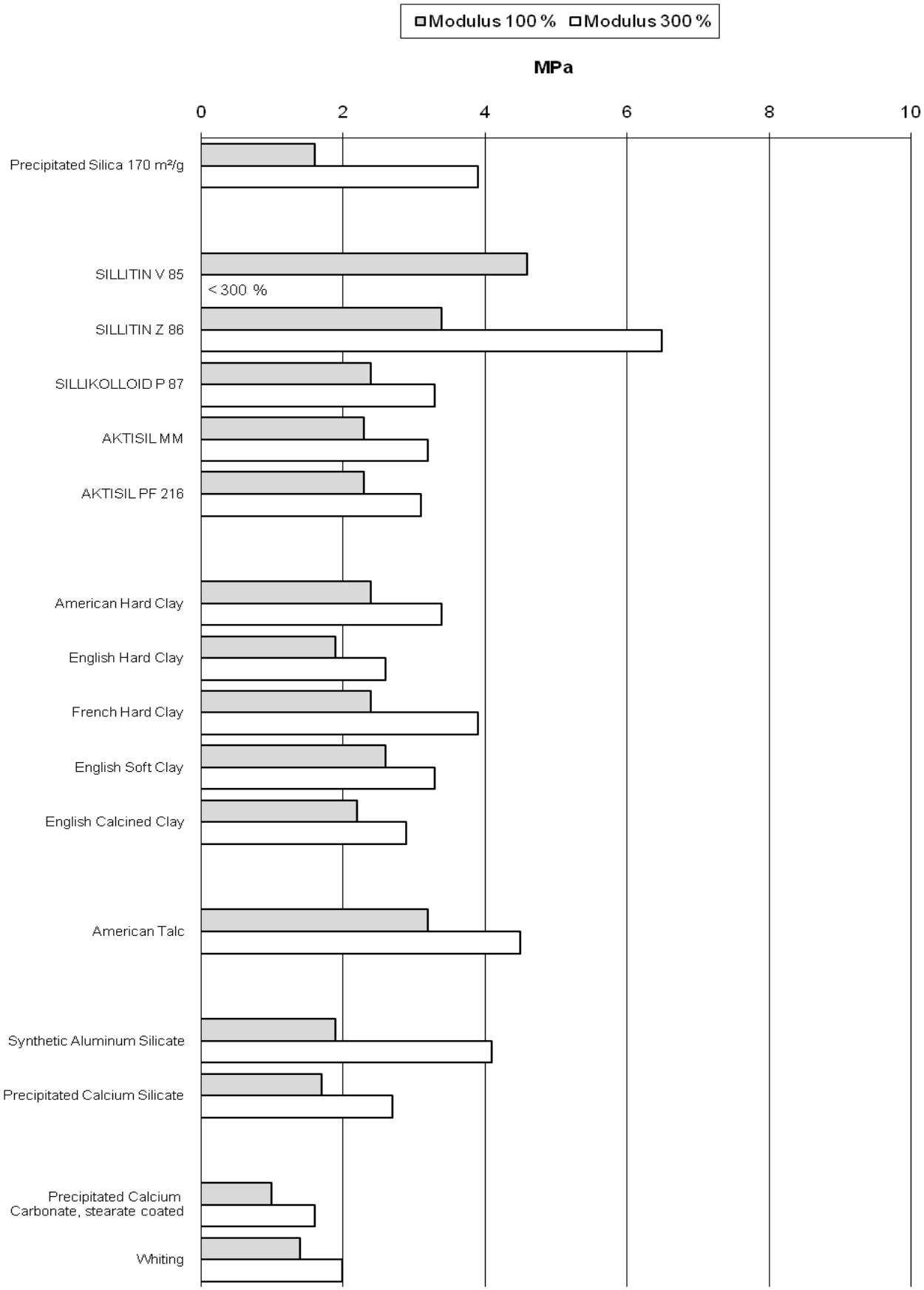
# TENSILE STRENGTH
# DIN 53 504-S2



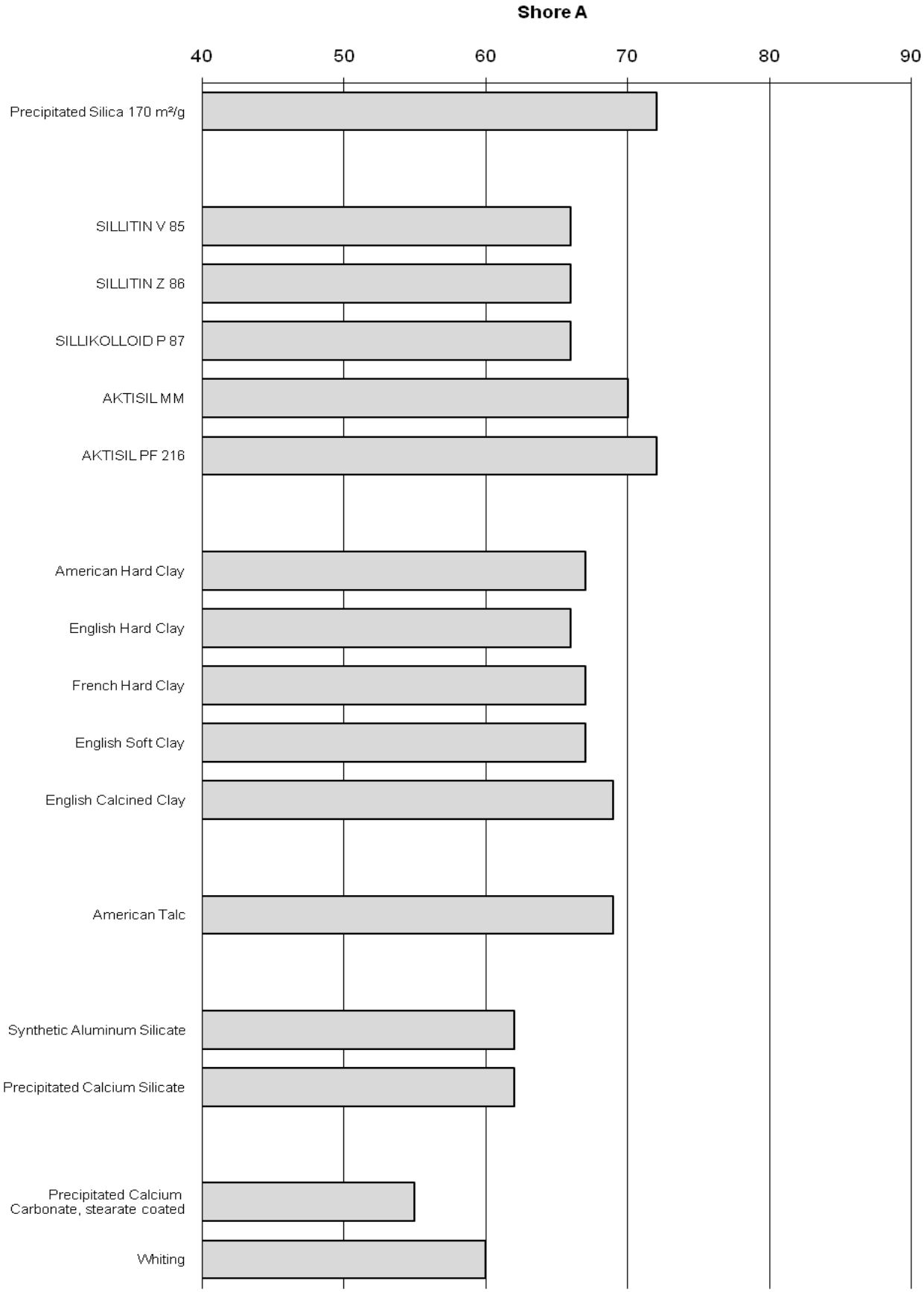
# ELONGATION AT BREAK
# DIN 53 504-S2



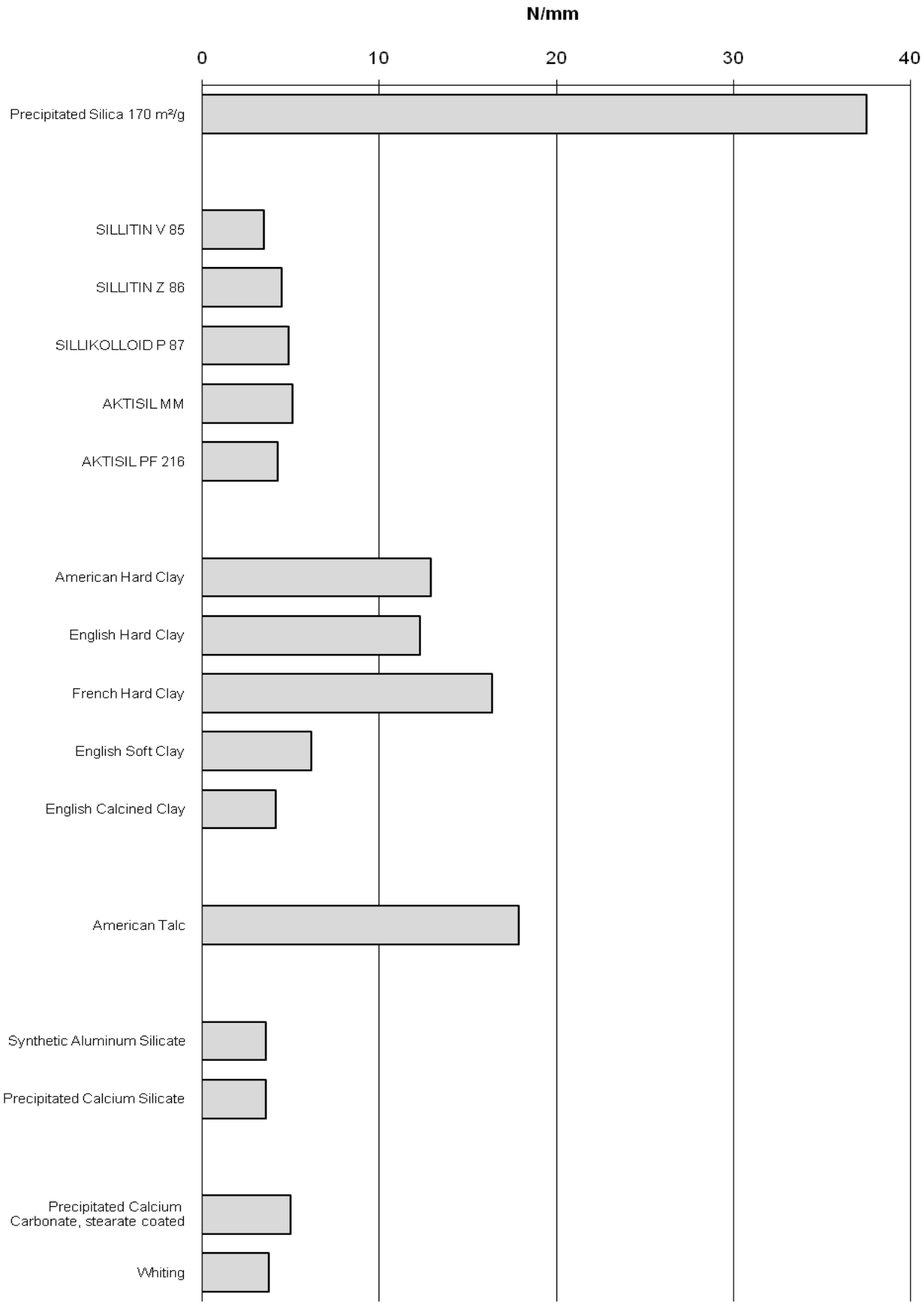
# MODULUS
# DIN 53 504-S2



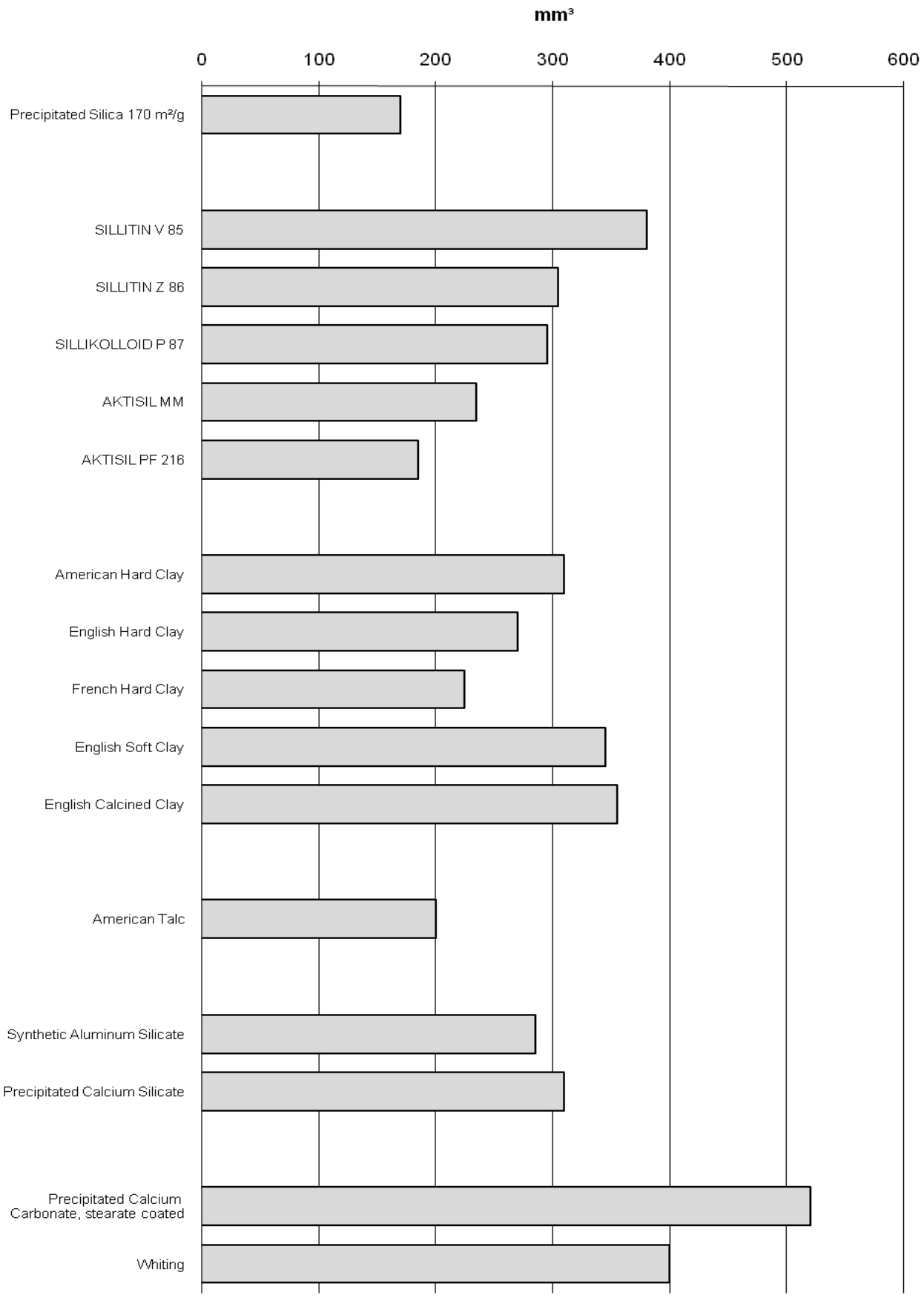
# HARDNESS
# DIN 53 505



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



# ABRASION
# DIN 53 516



# COMPRESSION SET
# DIN 53 517-A