

NEUBURG SILICEOUS EARTH (AKTISIL VM 56) IN A RADIATOR HOSE ACCORDING TO VW TL 523 61

FORMULATION

| | in phr |
|------------------------|--------|
| Vistalon 7500 | 70.0 |
| Vistalon 3666 | 52.5 |
| Sunpar 2280 | 22.5 |
| Flectol TMQ | 1.0 |
| Rhenofit EDMA/S (70 %) | 0.7 |
| Perkadox 14/40 B | 7.0 |
| Fillers | varied |

FORMULATION VARIATIONS IN PHR

| | | | | | | | |
|----------------------|----|----|----|----|----|----|----|
| Aktisil VM 56 | - | 40 | 80 | | | | |
| Corax N 550 | 55 | 45 | 90 | - | 35 | 70 | - |
| Durex 0 | 55 | 45 | - | 90 | 35 | - | 70 |

SUMMARY

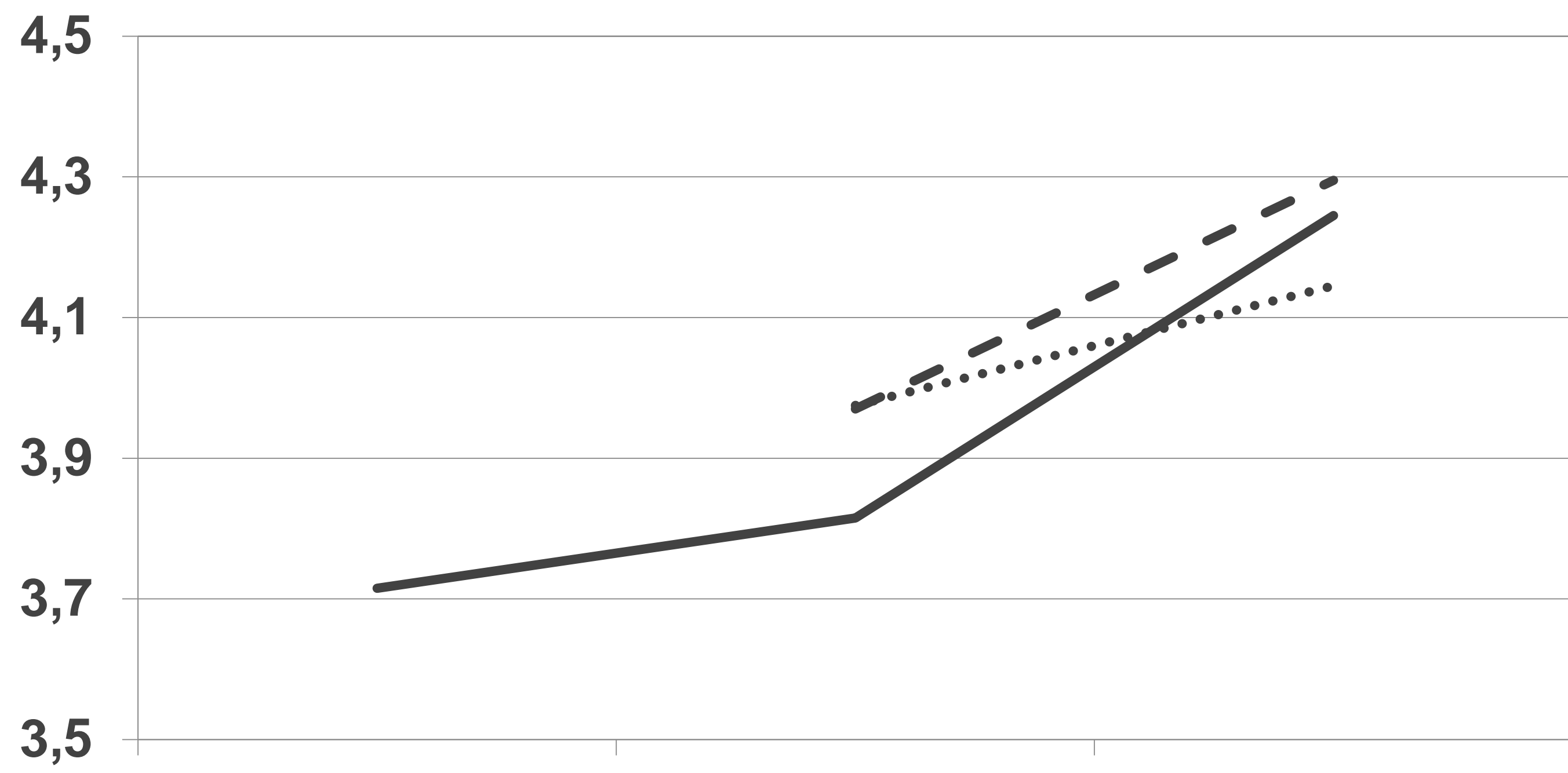
Reducing carbon black loadings by Aktisil VM 56

- has no negative effect on hot air aging properties
- results in a slight improvement of compression set in case of the combination of Corax N 550 and Durex 0
- reduces weight increase after immersion in oil and cooling fluid
- improves extrusion properties, i.e. increases output with unchanged die swell
- increases electrical resistivity, i.e. reduces conductivity

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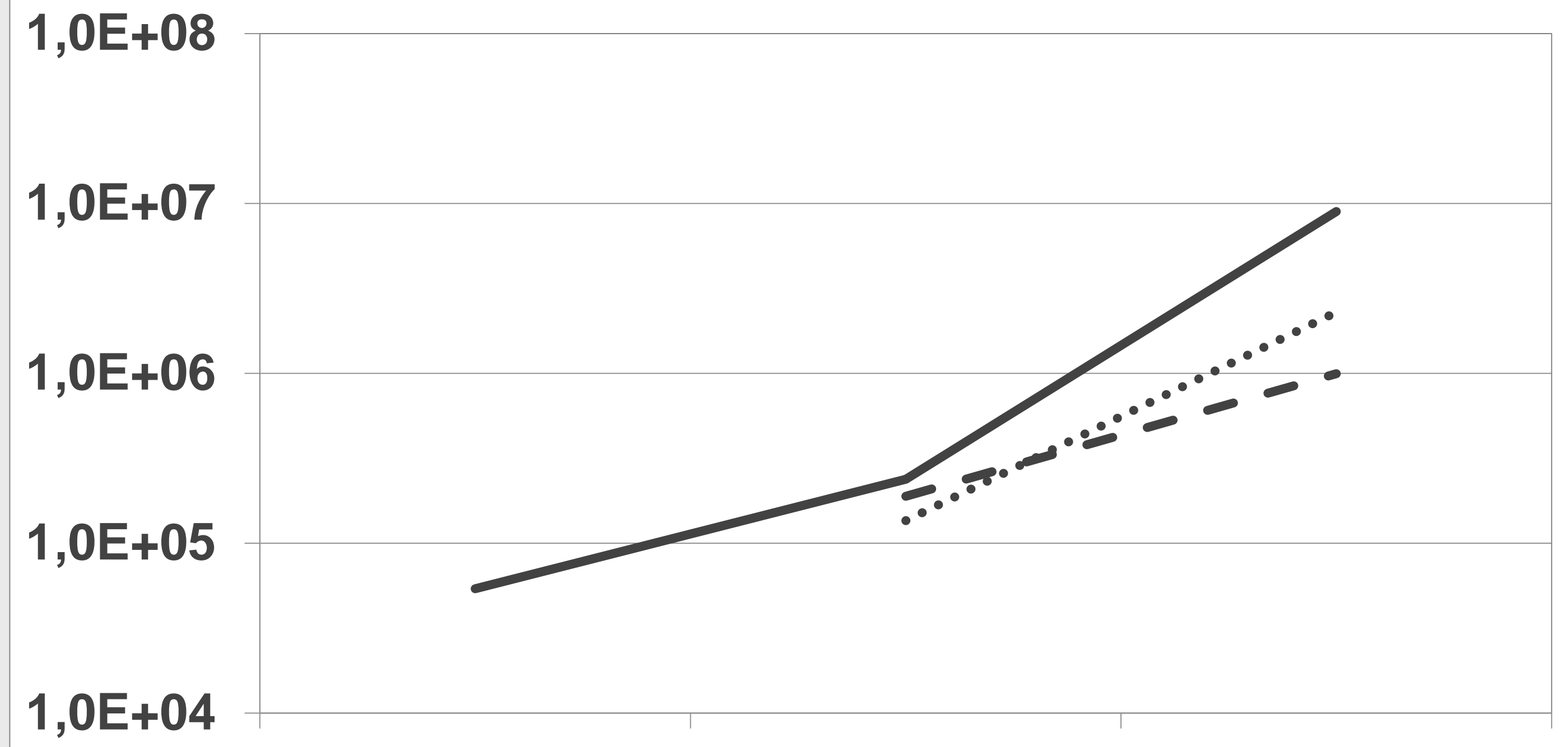
RESULTS

Hose Extrusion, 100 rpm – Output [m/min.]



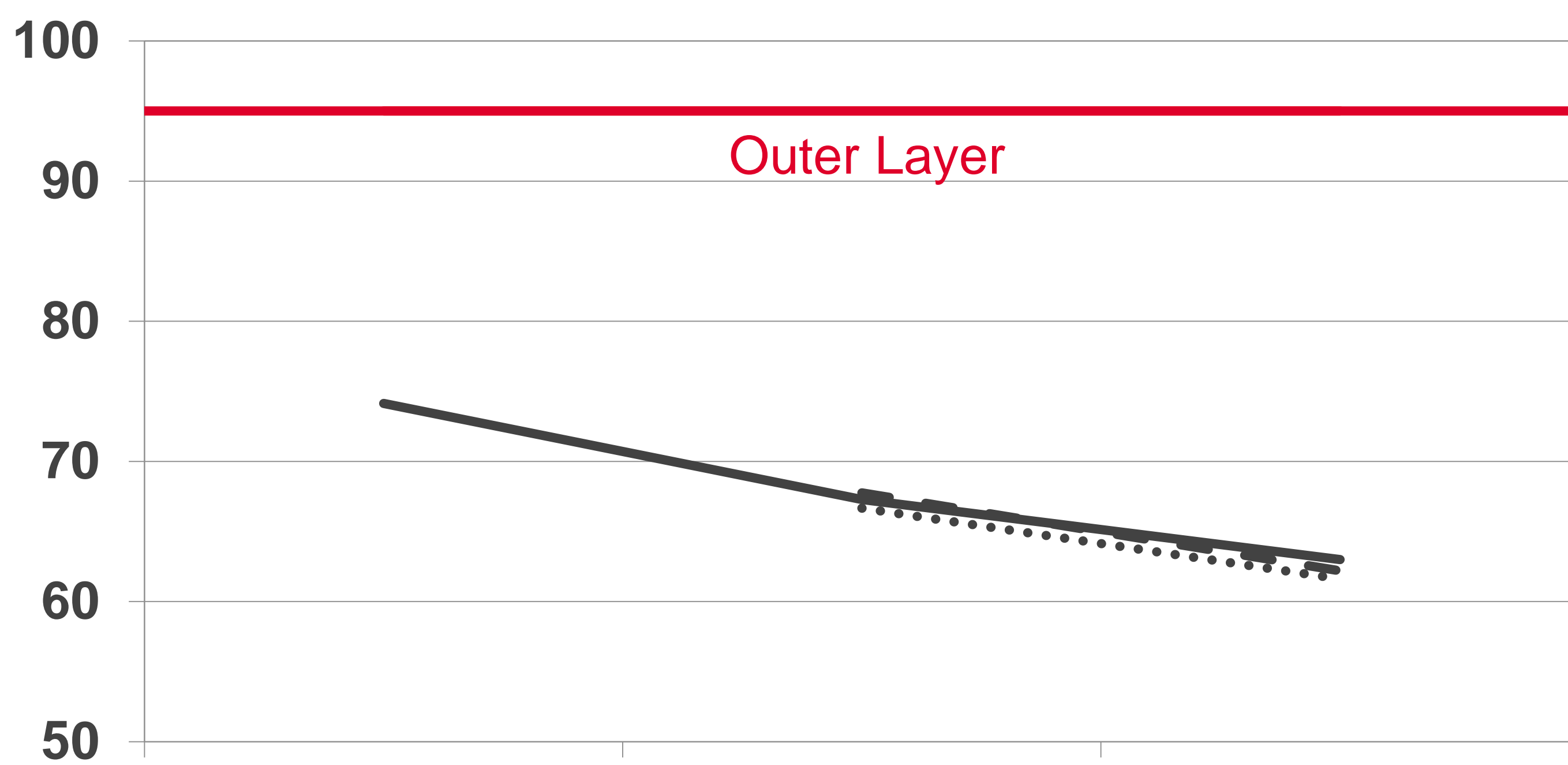
Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550

Volume Resistivity [$\Omega \cdot \text{cm}$], 1 V



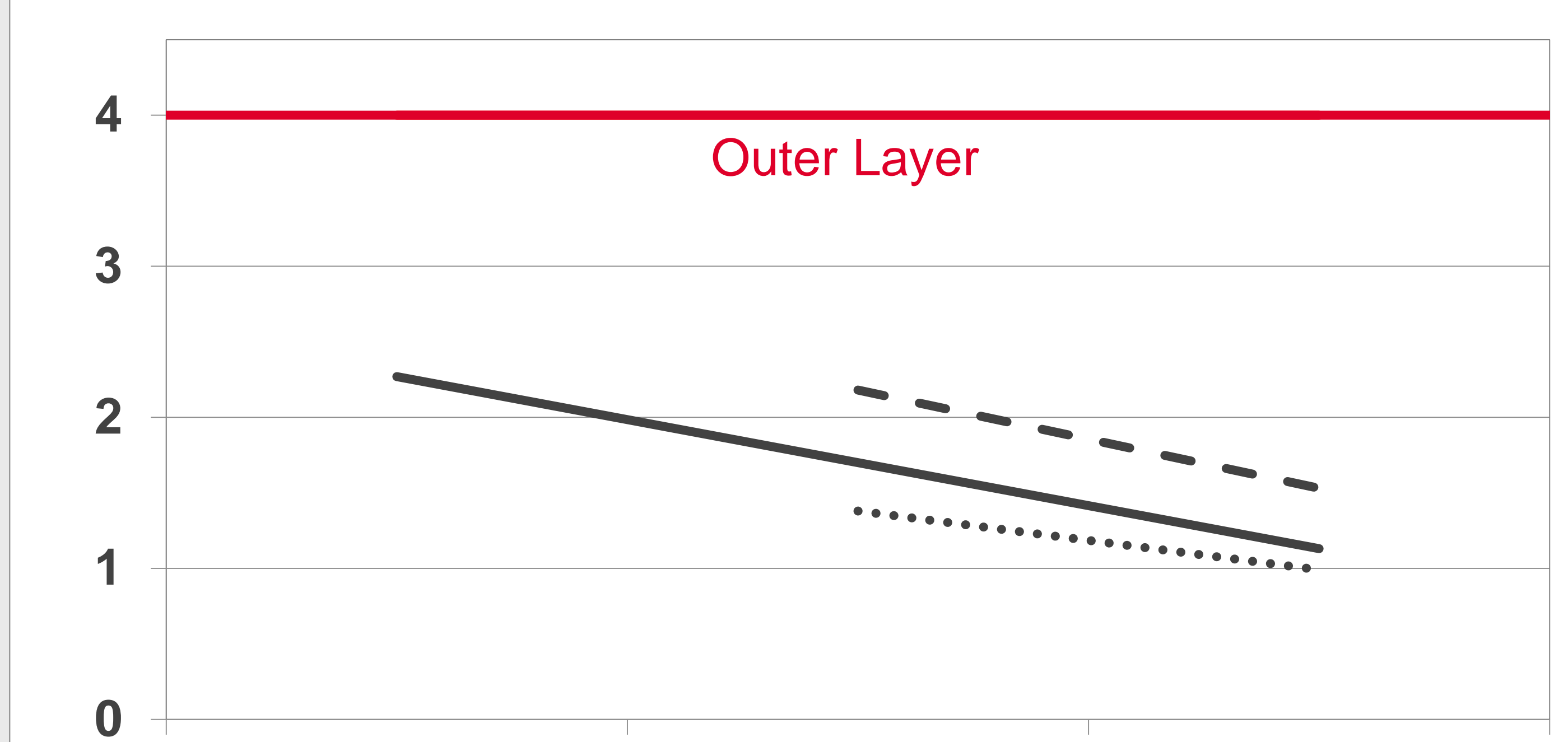
Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550

Immersion in BP Olex MK 4449, 22 h / 100 °C
Change of Weight [%]



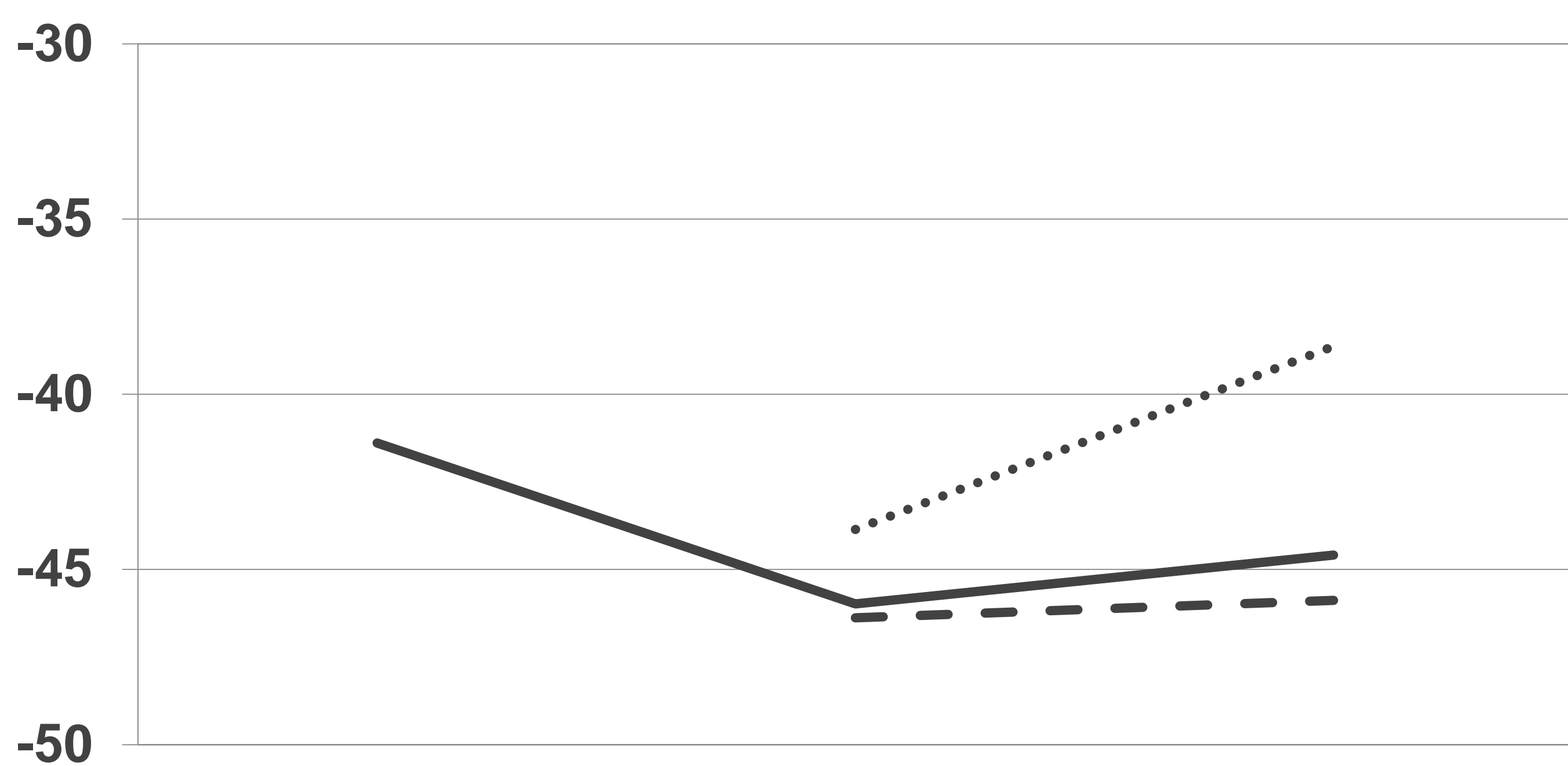
Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550

Immersion in Cooling Fluid G12 (1:1 with dist. H₂O),
94 h / 160 °C, Change of Weight [%]



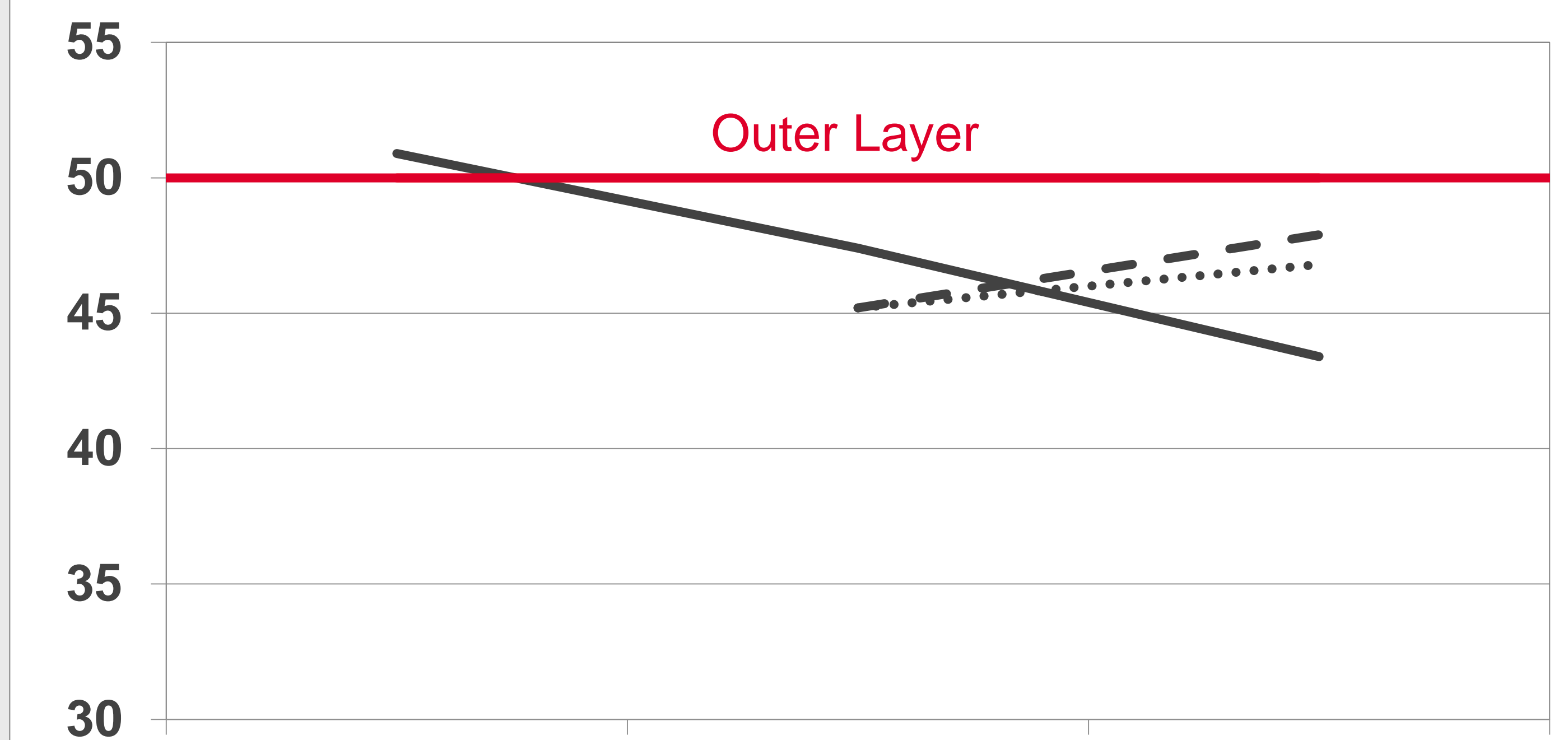
Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550

Hot Air Aging, 336 h / 150 °C
Change of Elongation at Break [%]



Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550

Compression Set [%], VW PV 3307
50 % defl., 3 h cooling, 1 min. relaxation, 22 h / 160 °C



Aktisil VM 56 0 40 80
Carbon Black 110 90 70
— N 550 / Durex 0 (50 / 50) - - Durex 0 ··· N 550