

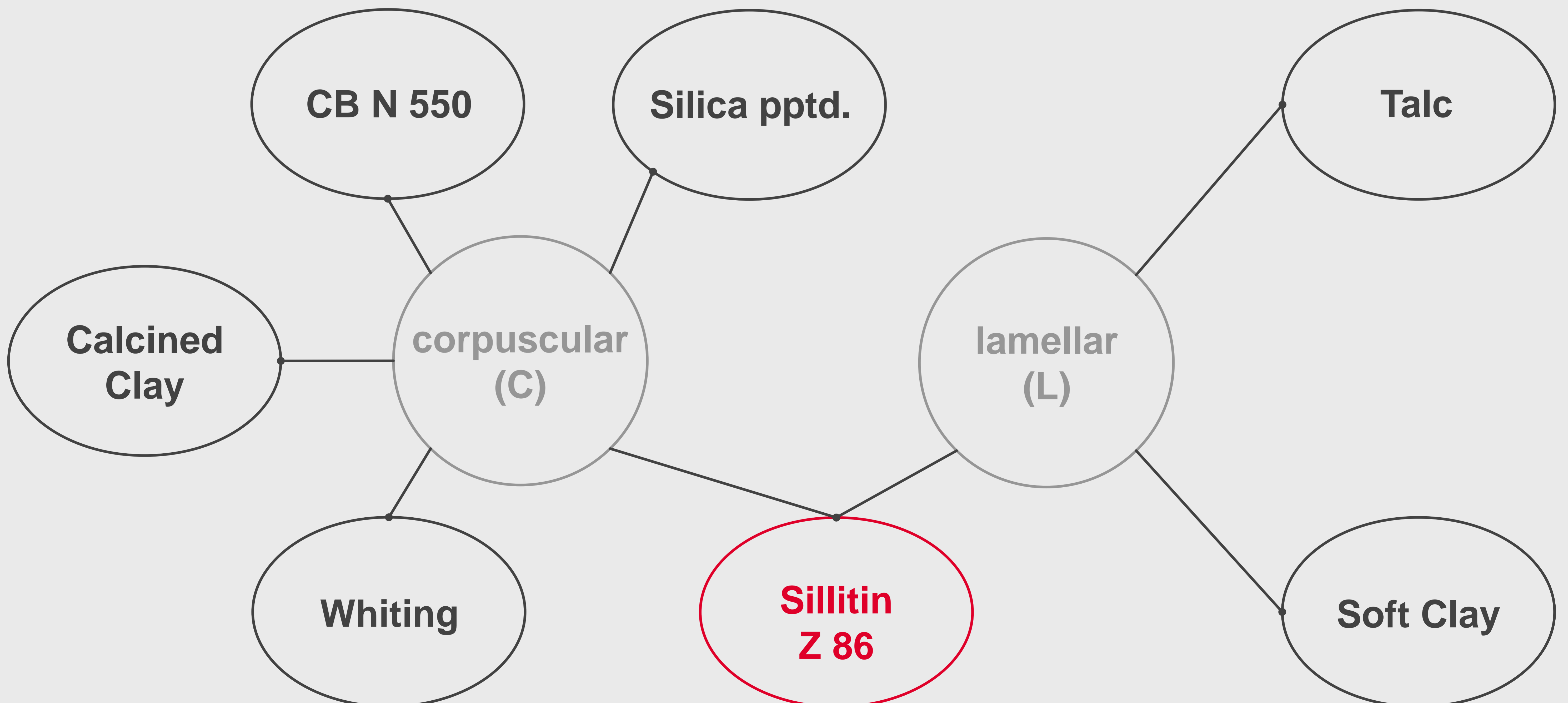
# NEUBURG SILICEOUS EARTH

## EFFECT OF FILLERS ON THE THERMAL CONDUCTIVITY OF ELASTOMERS

### FORMULATION

	in phr
Keltan 512x50 (EPDM)	150
Stearic Acid	1
Zinkoxyd aktiv	5
TAC 50 gr	2
Perkadox 14/40	8
Filler	varied

### MINERAL FILLERS



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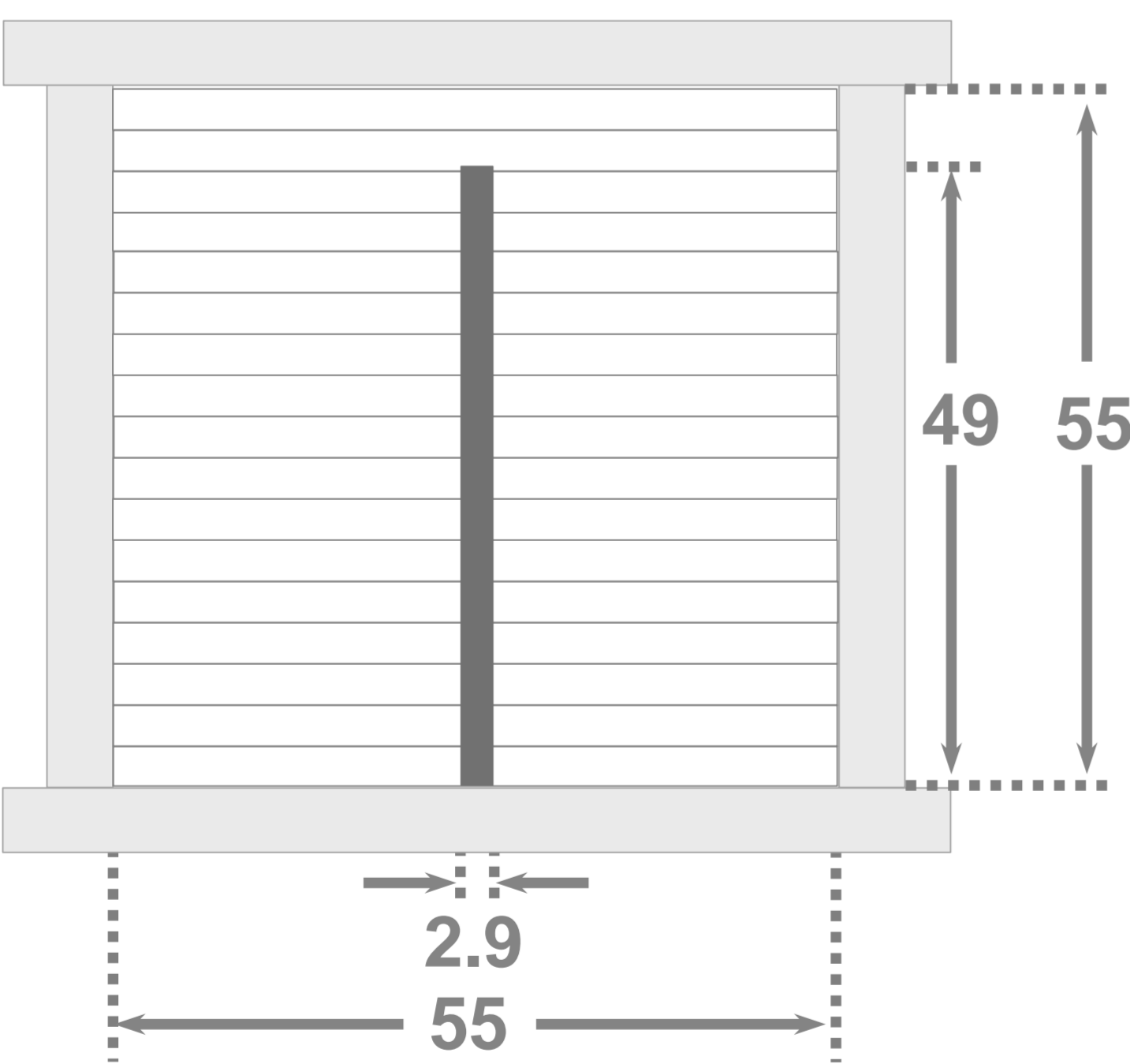
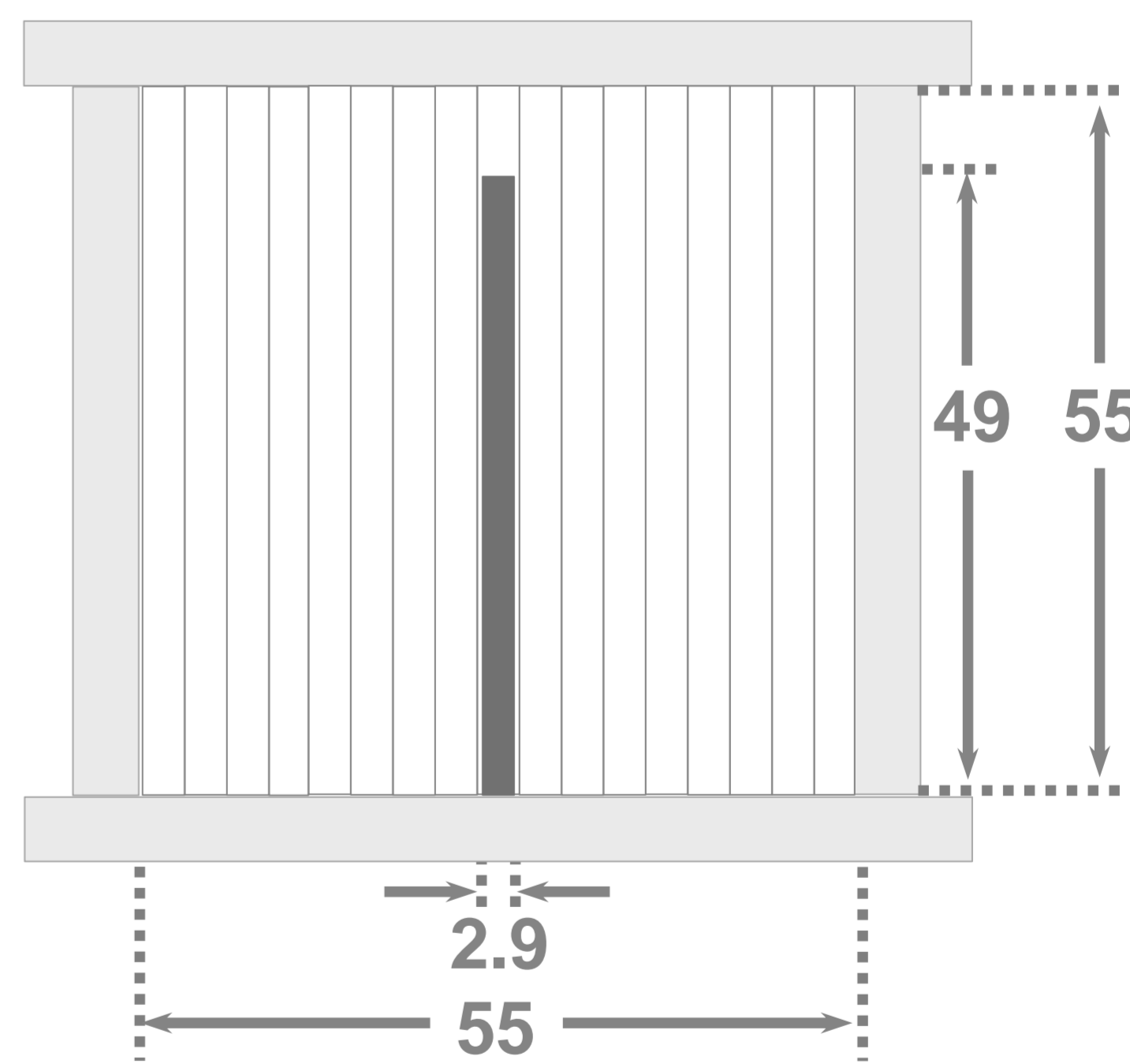
## EFFECT OF FILLERS ON THE

### THERMAL CONDUCTIVITY OF ELASTOMERS

#### FILLER LOADING

Filler	Shape	Loading – phr	Loading – Vol.-%
none		-	-
<b>Sillitin Z 86</b>	<b>C/L</b>	<b>65.5</b>	<b>12.5</b>
		<b>145.5</b>	<b>23.9</b>
		<b>200.0</b>	<b>30.0</b>
Talc	L	200.0	28.8
Soft Clay	L	200.0	30.0
Silica pptd.	C	50.0	12.3
Carbon Black N 550	C	100.0	24.0
Calcined Clay	C	200.0	30.0
Whiting	C	200.0	29.2

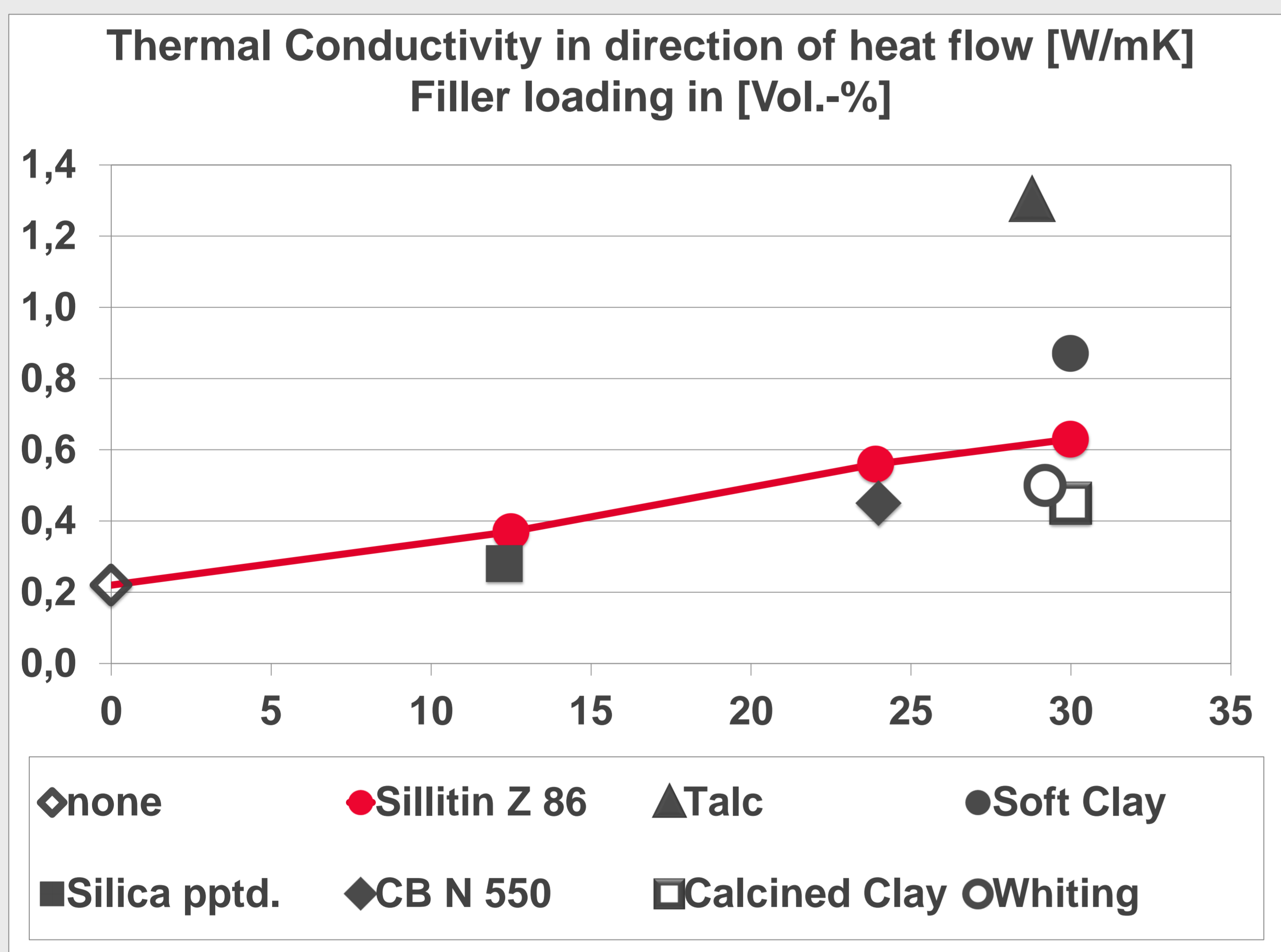
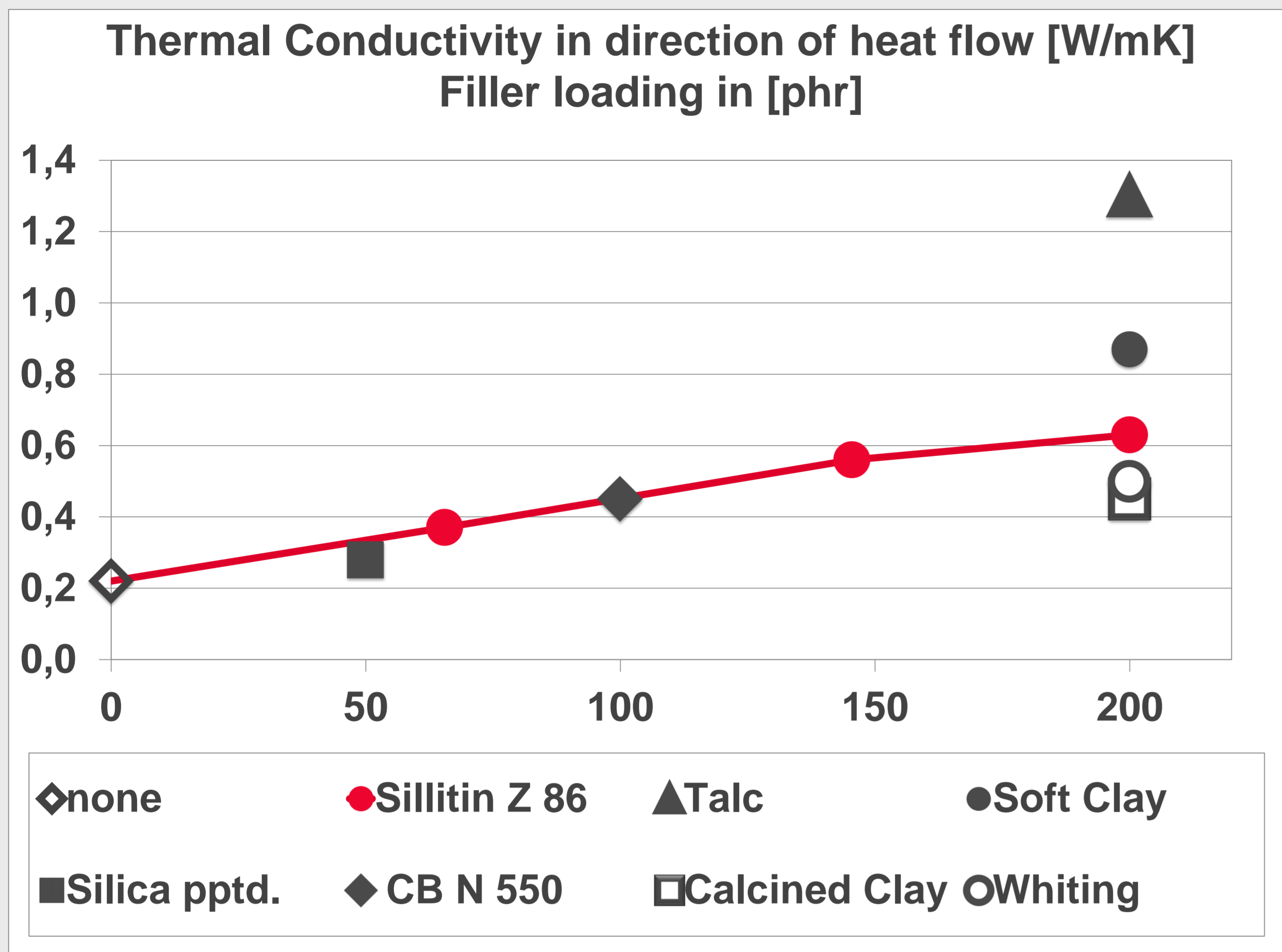
#### PREPARATION OF SPECIMENS

alignment in direction of heat flow	perpendicular to heat flow equivalent to the perpendicular platelets
all fillers	lamellar fillers and <b>Sillitin Z 86</b>
<p>* </p>	<p>* </p>
<p>mould filled with square layers cut from the compound</p> <p>*dimensions in mm</p> <p>center faced borehole (49 x Ø 2.9 mm)</p> <p>stepwise cure    15 min. / 100 °C                                      15 min. / 140°C                                      30 min. / 180 °C</p>	

# NEUBURG SILICEOUS EARTH EFFECT OF FILLERS ON THE THERMAL CONDUCTIVITY OF ELASTOMERS

## RESULTS

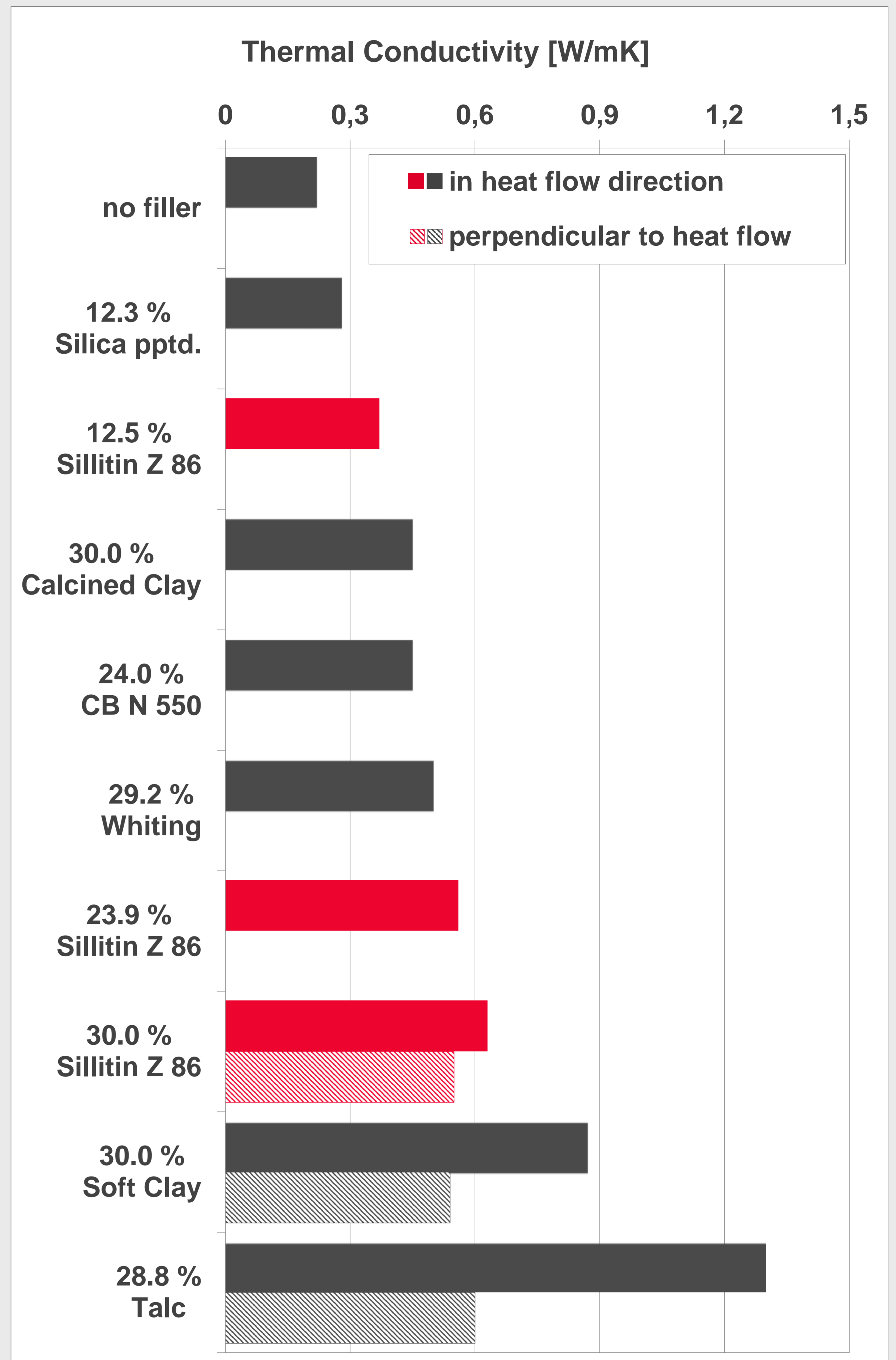
### Effect of Filler Content



increased **filler content**  
→ higher thermal conductivity

Along with  
**high thermal conductivity** and  
**low anisotropy**  
**Sillitin Z 86 provides**

### Results in Ascending Order [Vol.-%]



more distinct **lamellar shape**  
→ higher thermal conductivity but higher anisotropy

- moderate tensile strength
- high tear resistance
- good compression set
- good extrusion properties with excellent surface appearance