

# Thermometer glass

## Technical data of glass materials for thermometers

The main requirement for manufacturing precision thermometers which are calibratable is that suitable glass is used which is authorised by the Federal German Office of Physics & Technology (PTB).

A particularly important property is the low thermal after-effect of the glass material. This can be achieved by artificial ageing. **Ageing causes the thermometer zero point to stabilise.**

The durability of this glass is optimised by improving its physical and chemical properties.

Chemical resistance is determined using the water resistance procedure according to DIN 12111, acid resistance according to DIN 12116 and caustic solution resistance according to DIN 52322.

The solubilities thereby measured of the glass or individual components thereof are divided in the case of water into 5 durability classes, with acid into 4 and with caustic solution into 3 durability classes.

### Chemical resistance classes

| Glass type            | Identifying mark (stripe) | Transformation temperature acc. to DIN 52324 (°C) | Class DIN 12111 (water) | Class DIN 12116 (acid) | Class DIN 52322 (caustic solution) | Limit (°C) |
|-----------------------|---------------------------|---|-------------------------|------------------------|------------------------------------|------------|
| N 16 B Standard glass | red                       | +540  | 3                       | 1                      | 2                                  | +430       |
| 2954                  | black                     | +590  | 1                       | 3                      | 2                                  | +480       |
| 8409 Supremax         | –                         | +730  | 1                       | 4                      | 3                                  | +630       |
| Quartz glass          | –                         | +1,150  | 1                       | 1                      | 1                                  | +1,050     |