

DELO

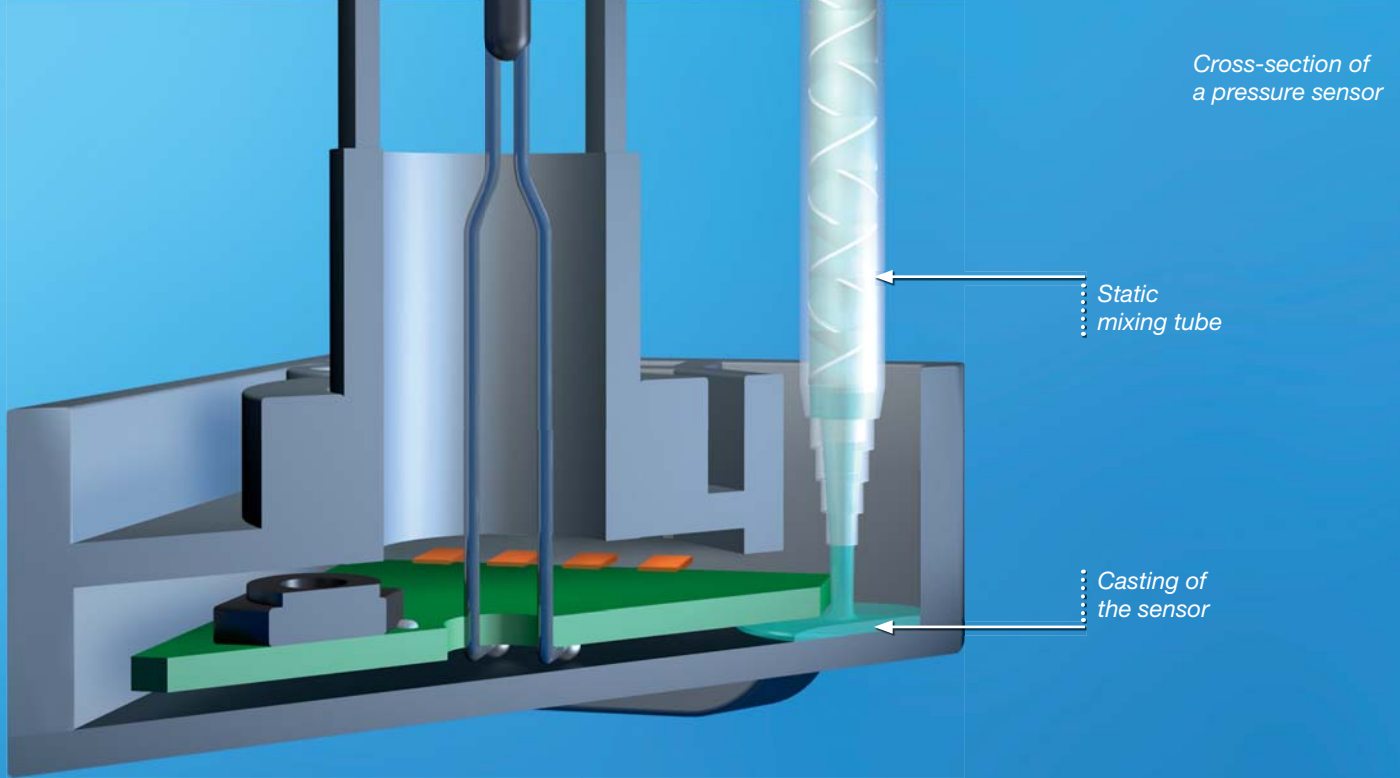


Challenge: engine compartment

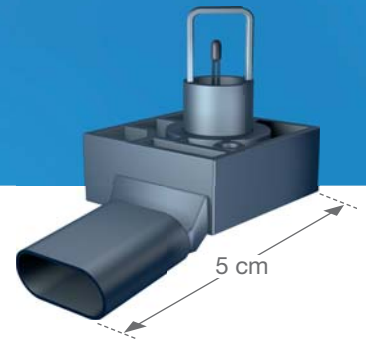


Innovative Casting Compounds

for Automotive Sensors



Innovative casting compounds



Reliable protection of automotive components

With the newly developed casting compounds for sensors and contacts, DELO succeeded in combining outstanding material properties, such as very high thermal and chemical resistance, good adhesion, adjusted flow properties and variable curing parameters.

Casting compounds, especially those used in the automotive industry, must provide excellent resistance to gasoline, diesel, oils and cleaners.

The heat-curing DELO-DUOPOX CR* adhesives clearly satisfy this demand and reliably retain their properties after years of use.

*CR = Casting Resin

Application areas

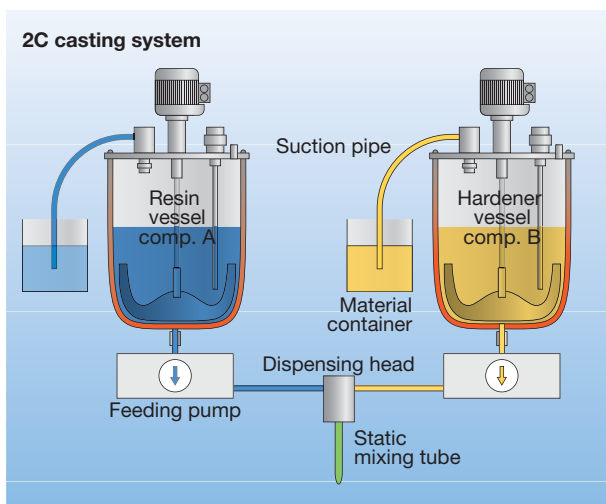
- Casting of sensors
- Casting of solder or plug contacts
- Casting of electric motors

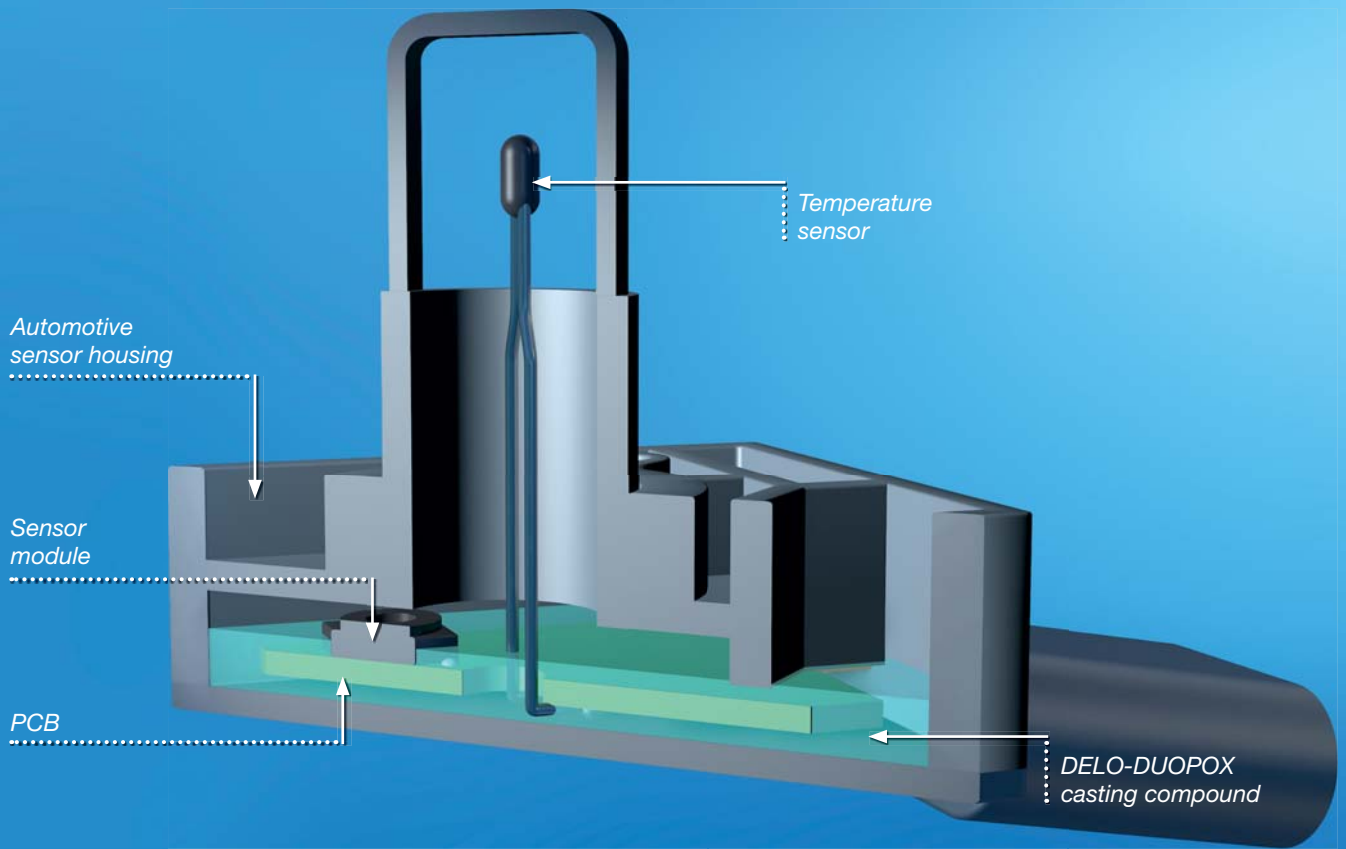
Product properties

- Two-component epoxy resins, solvent-free
- Temperature of use from -65°C to $+200^{\circ}\text{C}$
- Excellent chemical resistance from gasoline, diesel, oils, greases
- Universal adhesion to standard substrates such as FR4, PA, PPS as well as Al and Cu

Customer's benefits

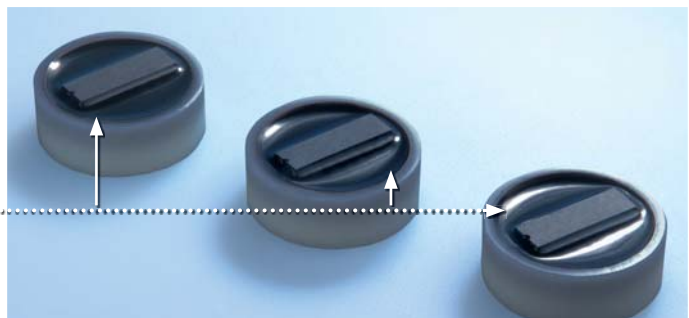
- Exceptional processing with fully automated 2C dispensing systems
- Long processing time of approx. 6 hours
- Excellent flow properties for easy dispensing and short cycle times in range of seconds
- Fast curing (e.g. 20 min @ $+150^{\circ}\text{C}$) or low curing temperature possible
- Easy transport and reasonably priced storage at room temperature (cold chain not necessary)
- Large containers possible





Test series: IC components in cast area

- ✔ Temperature shock test -40°C to $+180^{\circ}\text{C}$
 No detachment, no tension cracks after storage
- ✔ Storage in gear oil at $+150^{\circ}\text{C}$.
 No interaction between gear oil and casting compound



| | DELO-DUOPOX | | |
|---|---|--------|-------------|
| | CR715 | CR716 | CR VE 71824 |
| Application area | casting, sealing, coating | | |
| Filler content [weight %] | 48 | 66 | 55 |
| Viscosity [mPas] | 8,000 | 12,000 | 1,750 |
| Processing time [h] after mixing | 6 | | |
| Curing conditions until final strength | 20 min @ $+150^{\circ}\text{C}$ (curing temperatures from $+130$ to $+180^{\circ}\text{C}$ possible) | | |
| Tensile strength [MPa] | 47 | 36 | 40 |
| Elongation at tear [%] | ~ 1 | | |
| Young's modulus [MPa] | 6,000 | 7,000 | 6,500 |
| Glass transition temperature [$^{\circ}\text{C}$] | $+185$ | $+176$ | $+186$ |
| Coefficient of thermal expansion [ppm/K] | 35 ($+30$ to $+150^{\circ}\text{C}$) | | |
| Water absorption [weight %] | 0.2 | | |
| Temperature range of use [$^{\circ}\text{C}$] | -65 to $+200$ | | |



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Adhesives

Dispensing

Curing

Consulting

DELO