

RECOMMENDATIONS FOR COOLING WATER TREATMENT

In order to reduce levels of corrosion, the formation of limescale and biological growth in closed and semi-open cooling circuits and in injection moulds, we recommend that the cooling water be treated in an appropriate way.

As the fill-up water and supplementary water, it is advisable to use fully desalinated water with an electrical conductivity of $< 20 \mu\text{S}/\text{cm}$. The advantage of desalinated water is that, in addition to the minerals that promote corrosion, such as chlorides and sulphates, the hardness formers such as calcium and magnesium are also removed from the water at the same time.

Once desalinated water has a corrosive effect on metallic materials, the cooling water has to be conditioned with a corrosion inhibitor. Effective inhibitors that have proven their worth include cooling water products from the company Grünbeck Wasseraufbereitung, e.g. the product KW 1700. When using KW 1700 in older cooling systems, it is sensible to clean and rinse the cooling system before using the product.

In cooling systems, algae and slime bacteria can cause deposits. In order to tackle microbiological growth, the addition of a suitable biocide is recommended.

The following cooling water parameters are a recommendation from Siegfried Hofmann GmbH and should be complied with:

(The figures stated are only to be applied when conditioning with KW 1700).

pH value: 7.8 - 9.0 (when using aluminium components: 7.8 - 8.5)

Total hardness: $< 2 \text{ odH}$

Chloride: $< 10 \text{ mg/l}$

Sulphate: $< 10 \text{ mg/l}$

KW 1700 (Mo6+) 170-220 mg/l

Bacterial count: $< 10000 \text{ CFU/ml}$

It is the responsibility of the respective mould operator to check these figures on a regular basis!

In order to remove contamination caused by dead biomaterial, particles of rust etc. from the cooling water, the fitting of a circuit filtration unit is recommended.