

BOILER WATER

Recommendations for boiler feed water

Parameter	Unit		Monitoring
Appearance	–	Clear, without suspended matter	Visual
Conductivity, 25 °C	µS/cm	Only typical values for boilerwater	Discontinuous, once daily
pH-value, 25 °C	–	> 9.2	Discontinuous, once weekly
Total hardness	mol/L	< 0.01	¹⁾
Chloride Cl	mg/L	< 15	Discontinuous, once daily
CO ₂ (bonded)	mg/L	< 5	–
Iron (Fe)	mg/L	< 0.03	–
Copper (Cu)	mg/L	< 0.005	–
Silicic acid (SiO ₂)	mg/L	< 1.0	–
Oxygen (O ₂)	mg/L	< 0.02	²⁾
Oil/grease	mg/L	< 1.0	Continuous
Organic Substances	–	< 1.0	–

1) Feed water is hardness-free if phosphate is present in excess

2) It is sufficient if oxygen binder is present in excess

–: No control of parameters

Recommendations for boiler water

Parameter	Unit		Monitoring
Appearance	–	Clear, no stable foam	Discontinuous, once daily
Conductivity, 25 °C	µS/cm	< 2500	Discontinuous, once daily
pH-value, 25 °C	–	10.5 to 12.0	Discontinuous, once daily
Acidity 8.2 (p-value)	mmol/L	1 – 15	Discontinuous, once daily ¹⁾
Acidity 4.3 (T-value)		2 p > T	Discontinuous, once daily
Silicic acid SiO ₂	mg/L	< 50	–
Phosphate PO ₄	mg/L	7.5 – 15	Discontinuous, once daily
Sodium sulphite Na ₂ SO ₃	mg/L	10 – 20	Discontinuous, once daily ²⁾
Hydrazine	mg/L	0.2 – 0.5	Discontinuous, once daily ²⁾
Organic substances	mg/L	–	–
KMNO ₄ -consumption	mg/L	–	–
Chloride	mg/L	< 100	Discontinuous, once daily
Density, 20 °C	kg/m ³	< 1003	Discontinuous, once weekly
Oil	mg/L	< 1	–

1) Target: 2 p > T

2) Hydrazine, sodium sulphite or another appropriate substance is used for oxygen binding. Concentrations and their monitoring not mentioned here can be found in data sheets.

Source: Meier-Peter, Hansheinrich, Bernhardt, Frank (Eds.), Compendium Marine Engineering: Operation – Monitoring – Maintenance, 2009, by courtesy of PMC Media House GmbH: www.pcmmedia.com