**A.3 Recommended Steam Purity Chart**

Technically pure steam is of such quality, that it does not cause deposits in the steam pre-heaters, in the fittings, heaters as well as in the turbine, which might require the intentional shut-down of the boiler or some part of the equipment, for their cleaning, outside of the normal equipment maintenance program. The recommended or limit values of the purity of steam are stated in the following table. The values are given in the maximal allowable day average concentrations. The concentration of the chlorine ions may be max. 20 µg/kg.

NOTE: THE DATA IS ADAPTED FROM NEMA SM23-1991. (PAGE 52, SECTION 9.7)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Units** | **Recommended values/ Continuous** | **Start Up** |
| Conductivity, (µS / cm at 25°C) | µS / cm | 0.2 | 0.3 |
| Drum | µS / cm | 0.3 | 1.0 |
| Once Through |  | 0.2 | 0.5 |
| Ammonia (NH₃) | µg.l-¹ | 1 | 1 |
| Silicon dioxide, SiO2 | µg.l-¹ | 20 | 50 |
| Fe Contents | µg.l-¹ | 20 | 50 |
| Copper, Cu. | µg/kg | 3 | 10 |
| Sodium & Potassium (NA + K) | µg.l-¹ |  |  |
| Up to 800 PSIG (56 Bara) |  | 20 | 20 |
| 801 to 1450 PSIG (56 Bara to 101 Bara) |  | 10 | 10 |
| 1451 to 2400 PSIG(101 Bara to 166 Bara) |  | 5 | 5 |
| Over 2400 PSIG (166 Bara) |  | 3 | 3 |

NOTE: The measurement of the electrical conductivity ƴ at 25⁰C (µS/cm-¹) must be done without the presence of operational chemical agents, e.g. ammonia or hydrazine, which tends to increase the conductivity. This is why the measurement of specific electrical conductivity has to be done after the flow of the sample through the strong acidic H-katex, which is the filter that keeps all cat-ions of the chemical compounds. By the filtration chemically pure water can be obtained.