

ASTM D1193 (Types I–IV)

Parameter	Type I*	Type II**	Type III***	Type IV
Conductivity ($\mu\text{S}/\text{cm}$) at 25°C, max	0.056	1.0	0.25	5.0
Resistivity ($\text{M}\Omega\cdot\text{cm}$) at 25°C, max	18.0	1.0	4.0	0.2
pH at 25°C	–	–	–	5.0–8.0
TOC ($\mu\text{g}/\text{l}$), max	50	50	200	No limit
Sodium ($\mu\text{g}/\text{l}$), max	1	5	10	50
Silica ($\mu\text{g}/\text{l}$), max	3	3	500	No limit
Chloride ($\mu\text{g}/\text{l}$), max	1	5	10	50

*Requires use of 0.2 μm membrane filter; **Prepared by distillation; ***Requires the use of 0.45 μm membrane filter.

Clinical and Laboratory Standards Institute (CLSI) – formerly NCCLS

As of 2006, the [CLSI](#) has moved away from the typical Type I, II and III designations, instead preferring to suggest that water be simply ‘fit for purpose’, and only describes one grade in significant detail: Clinical Reagent Laboratory Water. The CLSI has also briefly outlined other grades in less detail, such as Special Reagent Water (SRW) and instrument feed water.

Parameter	CLSI-CLRW
Resistivity ($\text{M}\Omega\cdot\text{cm}$ at 25°C)	≥ 10.0
Conductivity ($\mu\text{S}/\text{cm}$ at 25°C)	≤ 0.1
TOC (ppb)	≤ 500
Bacteria (CFU/mL)	≤ 10
Endotoxins (EU/mL)	≤ 0.25
Silica (mg/L)	≤ 0.05
Particulates	0.22 μm filtration recommended
pH	Not specified

International Organization for Standardization (ISO)

The [ISO](#) based its specification on ISO 3696:1987, and specifies three grades of water: Grade 1, Grade 2 and Grade 3, where Grade 1 is the most pure (see below):

Water quality parameters for ISO grades

Parameter	Grade 1	Grade 2	Grade 3
Resistivity ($\text{M}\Omega\cdot\text{cm}$ at 25°C)	≥ 10	≥ 1	Not specified
Conductivity ($\mu\text{S}/\text{cm}$ at 25°C)	≤ 0.1	≤ 1.0	≤ 5.0
TOC (ppb)	≤ 50	≤ 50	Not specified
Bacteria (CFU/mL)	≤ 10	≤ 100	Not specified
Silica (mg/L)	≤ 0.01	≤ 0.02	≤ 0.05