

**Table 7.25**  
Applicability of Treatment Methods

water quality		screening	pretreatment			treatment					special treatments			
constituents	concentration, mg/l		prechlorination	plain settling	aeration	lime softening	coagulation and sedimentation	rapid sand filtration	slow sand filtration	postchlorination	superchlorination <sup>1</sup> or chlor-ammiation	active carbon	special chemical treatment	salt water conversion <sup>2</sup>
coliform monthly avg mpn/100 ml <sup>5</sup>	0-20 20-100 100-5000 >5000		E E E	O  O <sup>3</sup>			O E E	O E E	O O O	E E E				
suspended solids	0-100 100-200 > 200	O O O		O <sup>4</sup>			E E E	E E E	O					
color, mg/l	20-70 > 70						O E E	O E E			O O O			
tastes and odors	noticeable		O						O			E		
CaCO <sub>3</sub> , mg/l	> 200				E		E	E					E	
pH	< 5.0-9.0													
iron and manganese mg/l	< 0.3 0.3-1.0 > 1.0		O E	O			E E	E	O O				O	
chloride, mg/l	0-250 250-500 500 +													O E
phenolic compounds, mg/l	0-0.005 > 0.005						O E E	O E E			O E E			
toxic chemicals less critical chemicals							O	O			O E E	O O O		

Note: E = essential, O = optional

<sup>1</sup>Superchlorination shall be followed by dechlorination.

<sup>2</sup>As alternate, dilute with low chloride water.

<sup>3</sup>Double settling shall be provided for coliform exceeding 20,000 mpn/100 ml<sup>5</sup>.

<sup>4</sup>For extremely muddy water, presedimentation by plain settling may be provided.

<sup>5</sup>mpn = most probable number

• For Hard Water

sequence #1: intake (bypass to second flocculator)  
lime addition  
alum addition  
rapid mixing  
flocculation  
sedimentation  
oxidation (chlorine or potassium permanganate)  
second flocculation  
sedimentation  
filtering  
fluoridation  
chlorination

sequence #2: intake  
presedimentation (in a basin)  
chlorination  
mixing  
addition of activated carbon  
lime addition  
alum addition  
flocculation  
sedimentation  
addition of activated carbon  
mixing  
filtering  
fluoridation  
chlorination  
soda ash addition