

5. ACID/ALKALI RESISTANCE

The following table exhibits that AFLAS has strong resistance to high temperature and high concentration of acid/alkali/oxidant. AFLAS is superior in this property to vinylidenfluoride type fluororubbers.

●Resistance to Acid/Alkali

Chemicals	Immersion conditions		AFLAS	Vinylidenfluoride type fluororubber	Silicone rubber	EP rubber	CR	Butyl rubber	NBR	CSM
	Temperature	days								
Fuming sulfuric acid	25°C	7	A	C	×	×	×	×	×	×
96% sulfuric acid	100°C	3	A	D	×	×	×	×	×	×
	70°C	3	A	C	×	×	×	×	×	×
	40°C	3	A	B	×	D	×	×	×	D
	25°C	7	A	B	×	C	×	×	×	D
60% sulfuric acid	100°C	3	A	A	A	A	A	A	C	B
	25°C	7	A	A	A	A	A	A	A	A
20% sulfuric acid	100°C	3	A	A	A	A	A	A	B	A
Fuming nitric acid	25°C	7	C	C	×	×	×	×	×	×
98% nitric acid	25°C	7	C	D	D	×	×	×	×	×
60% nitric acid	100°C	3	C	×	×	×	×	×	×	×
	70°C	3	B	×	×	×	×	×	×	×
	40°C	3	A	C	B	×	×	×	×	×
	25°C	7	A	B	B	D	×	×	×	×
20% nitric acid	100°C	3	C	D	×	×	×	×	×	×
	70°C	3	C	D	×	×	×	×	×	×
	25°C	7	A	A	C	B	B	B	B	B
50% hydrofluoric acid	25°C	7	A	B	×	B	D	A	D	A
37% hydrochloric acid	70°C	3	B	D	×	C	D	C	D	D
	40°C	3	A	C	C	B	C	B	B	B
	25°C	7	A	B	C	A	B	A	B	A
20% hydrochloric acid	100°C	3	B	D	×	C	D	D	D	D
	70°C	3	B	D	×	D	D	D	D	D
	25°C	7	A	A	B	A	A	A	B	A
50% sodium hydroxide	100°C	3	A	×	B	A	B	A	A	B
	70°C	3	A	A	A	A	A	A	A	B
	25°C	7	A	A	B	A	A	A	A	A
20% sodium hydroxide	100°C	3	A	D	A	A	A	A	A	A
	70°C	3	A	A	A	A	A	A	A	A
28% ammonia solution	70°C	3	A	B	A	A	B	A	A	C
	25°C	7	A	A	A	A	A	A	A	A

A Volume change ≤ 5%
 B Volume change < 15%
 C Volume change < 40%

D Volume change > 40%
 X disintegration or dissolution