

PROHIB 170

■ Acid Inhibitor

> PRODUCT DESCRIPTION

ProHib 170 is an excellent mineral acid corrosion inhibitor for use at moderate to high temperatures. ProHib 170 coats the metal with a thin film barrier to protect against the destruction by direct contact with the acid. The excellent dispersability of ProHib 170 insures that the inhibitor comes into contact with the metal instead of floating out on top of the acid.

> PACKAGING

ProHib 170 is available in 55 gallon drums or 330 gallon tote tanks. Other packaging options may be available upon request.

> RECOMMENDED APPLICATION

ProHib 170 can be used in acid strengths up to 28% hydrochloric acid. It is effective to 200°F without the use of an intensifier and to 350°F when used with an intensifier such as Buffer A. The table below gives approximate use rate guidelines. More precise dosage is determined by: (1) the acid type and strength, (2) temperature, (3) type of steel, (4) amount of other additives and (5) contact time. The best performance is obtained by testing at the particular job conditions expected.

Acid Strength	Temp (°F)	ProHib 170 gpt
15%	150	1.0 - 3.0
15%	175	2.0 - 4.0
15%	200	4.0 - 10.0
15%	225	8.0 - 10.0
15%	250	8.0 - 10.0
15%	275	20.0
15%	300	10.0+ Intensifier
15%	350	20.0+ Intensifier
28%	150	2.0 - 9.0
28%	175	6.0 - 20.0+
28%	200	8.0 - 20.0+ Intensifier
28%	225	10.0 - 15.0+ Intensifier
28%	250	15.0 - 20.0+ Intensifier

Typical Physical Properties

Flash Point (°F/°C)	50 / 10
Freeze Point (°F/°C)	-20 / -28.9
Charge	Cationic in Acid
Specific Gravity	0.861 - 0.921
Solubility	Water and Acid Dispersible

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I. Performance Test Results in 15% HCl

II. Performance Test Results in 28% HC

Temp Test	Test Pressure	ProHib 170 Con.	Contact Time	Coupon	Corrosion
OF	psi	gpt	hrs.	Type	lbs/ft
150	Atmospheric	1.0	6	J-55	.0041
	Atmospheric	1.0	24	J-55	.0071
	Atmospheric	2.0	24	J-55	.0041
	Atmospheric	3.0	24	J-55	.0051
175	Atmospheric	1.0	6	J-55	.0463
	Atmospheric	2.0	6	J-55	.0081
	Atmospheric	3.0	6	J-55	.0051
	Atmospheric	3.0	24	J-55	.0091
	Atmospheric	4.0	24	J-55	.0071
	Atmospheric	5.0	24	J-55	.0071
200	Atmospheric	3.0	6	J-55	.0082
	Atmospheric	4.0	6	J-55	.0081
	Atmospheric	5.0	6	J-55	.0081
	Atmospheric	6.0	24	J-55	.0151
	Atmospheric	8.0	24	J-55	.0131
	Atmospheric	10.0	24	J-55	.0101
225	2,000	8.0	6	J-55	.0091
	2,000	10.0	6	J-55	.0091
250	3,000	8.0	6	J-55	.0424
	3,000	8.0 ⁽¹⁾	6	J-55	.0141
	3,000	10.0	6	J-55	.0262
	3,000	10.0 ⁽¹⁾	6	J-55	.0131
	3,000	20.0	6	N-80	.028
275	3,000	20.0	6	N-80	.045
300	3,000	10.0 ⁽²⁾	6	N-80	.0282
	3,000	10.0 ⁽³⁾	6	N-80	.0242
	3,000	10.0 ⁽⁴⁾	6	N-80	.0222
	3,000	20.0 ⁽²⁾	6	N-80	.0262
	3,000	20.0 ⁽³⁾	6	N-80	.0242
	3,000	20.0 ⁽⁴⁾	6	N-80	.0232
350	4,000	20.0 ⁽²⁾	3	N-80	.0351
	4,000	20.0 ⁽³⁾	3	N-80	.0331
	4,000	20.0 ⁽⁴⁾	3	N-80	.0271

Temp Test	Test Pressure	ProHib 170 Con.	Contact Time	Coupon	Corrosion
OF	psi	gpt	hrs.	Type	lbs/ft
150	Atmospheric	1.0	6	J-55	.0091
	Atmospheric	2.0	6	J-55	.0061
	Atmospheric	3.0	6	J-55	.0051
	Atmospheric	3.0	24	J-55	.0101
	Atmospheric	6.0	24	J-55	.0081
	Atmospheric	9.0	24	J-55	.0061
175	Atmospheric	4.0	6	J-55	.0232
	Atmospheric	6.0	6	J-55	.0182
	Atmospheric	8.0	6	J-55	.0121
	Atmospheric	10.	24	J-55	.0262
	Atmospheric	15.0	24	J-55	.0122
	Atmospheric	20.0	24	J-55	.0102
200	Atmospheric	8.0(A)	6	J-55	.0292
	Atmospheric	8.0	6	J-55	.0071
225	2,000	10.0	6	J-55	.0402
	2,000	10.0(A)	6	J-55	.0191
	2,000	15.0	6	J-55	.0391
	2,000	15.0(A)	6	J-55	.0161
250	3,000	10.0	6	J-55	.1113
	3,000	10.0(A)	6	J-55	.0552
	3,000	10.0(B)	6	J-55	.0421
	3,000	15.0	6	J-55	.0953
	3,000	15.0(A)	6	J-55	.0502
	3,000	15.0(B)	6	J-55	.0421
	3,000	10.0(C)	6	J-55	.0311

16.7 pounds of ACI-INT 300 added as an intensifier per 1,000 gallons of acid

33.4 pounds of ACI-INT 300 added as an intensifier per 1,000 gallons of acid

16.7 pounds of ACI-INT 301 added as an intensifier per 1,000 gallons of acid.

16.7 pounds of ACI-INT 300 added as an intensifier per 1,000 gallons of acid

100 gallons of Buffer A added as an intensifier per 1,000 gallons of acid

150 gallons of Buffer A added as an intensifier per 1,000 gallons of acid

200 gallons of Buffer A added as an intensifier per 1,000 gallons of acid

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III. PERFORMANCE TEST RESULTS IN 9-1% HCl-HF

Temp Test °F	Test Pressure psi	ProHib 170 Con. gpt	Contact Time hrs.	Coupon Type	Corrosion lbs/ft
175	3,000	6.	8	N-80	.009
225	3,000	20.0	6	N-80	.032
250	3,000	6.0 ⁽⁵⁾	6	N-80	.013

5. 20.0 pounds of AC- I-INT 301 added as an intensifier per 1,000 gallons of acid.

IV. PERFORMANCE TEST RESULTS IN 12-3% HCl-HF

Temp Test °F	Test Pressure psi	ProHib 170 Con. gpt	Contact Time hrs.	Coupon Type	Corrosion lbs/ft
200	2,000	3.0	6	N-80	.007
	2,000	6.0	24	N-80	.013
225	2,000	6.0	6	N-80	.013
	2,000	8.0	6	N-80	.009
	2,000	10.0	6	N-80	.009
	2,000	6.0	24	N-80	.063
	2,000	8.0	24	N-80	.085
	2,000	10.0	24	N-80	.076
250	2,000	6.0	6	N-80	.036
	2,000	10.0	16	N-80	.093
	2,000	10.0 ^(D)	16	N-80	.032
275	2,000	10.0	6	N-80	.064
	2,000	20.0 ^(D)	6	N-80	.038
300	2,000	10.0	6	N-80	.143
	2,000	20.0 ^(D)	6	N-80	.034

20 gallons of Buffer A added as an intensifier per 1,000 gallons of acid.