



CRR (Corrosion Resistance Ratio) Values

Corrosion Resistance Ratio (CRR)* ^Ω				
NPS (in)	Nominal O.D. (in)	Schedule 10 Plain end	Schedule 40 Threaded †	Schedule 40 Plain end
1	1.315	10.18	1	18.50
1 1/4	1.660	6.94	1	14.71
1 1/2	1.900	5.51	1	12.97
2	2.375	4.68	1	13.21
2 1/2	2.875	4.22	1	20.41
3	3.500	2.98	1	17.35
3 1/2	4.000	2.26	1	15.10
4	4.500	1.82	1	14.02
5	5.563	1.66	1	11.86
6	6.625	1.21	1	11.05

*CRR values were calculated using the required calculation method described in UL 852 standard appendix A

The CRR for each size pipe is defined as follows:

$$CRR = (X / X_{40})^3$$

Where: X₄₀ = Thickness of Schedule 40 pipe under the first exposed thread. The "first exposed thread" is the minimum pipe thickness exposed to both interior and exterior corrosion and occurs at the threaded joint assembly at a line defined by the thread width, just before the pipe engages the fitting.

X = Thickness of the certified pipe measured either under the first exposed thread for threaded pipe or at the thinnest wall section for unthreaded pipe.

Ω The minimal thickness under the first exposed thread was taken from "FM Approval Standard for Steel Pipe for Automatic Fire Sprinkler Systems, Class Number 1630, November 2013"

† By definition, the CRR value will be greater than 1.00 when the wall thickness of the certified pipe is greater than the wall thickness of Schedule 40 pipe under the first exposed thread, and less than 1.00 when the certified pipe wall is thinner than the wall thickness of Schedule 40 pipe under the first exposed thread

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06/30/2020

Date