

# Job Estimating

The following pages contain helpful product estimating information in the form of charts.

Having previously selected the appropriate drawing(s) which meet the firestopping condition(s) being addressed, you may use the estimating charts to determine the amount(s) of product(s) needed.

You should understand that these charts are provided as a convenience only. No claim is made as to their complete accuracy. The user assumes all responsibility for the use of these charts and for determining the amount of product needed for an application.

## 3M™ Fire Barrier Products

<b>Pipe Chart</b> <b>Schedule 40 Pipe Sizes to 12 Inches</b>						
<b>Nominal Pipe Size</b>	<b>Actual Pipe Size In Decimal Inches</b>		<b>Nominal Pipe Size</b>	<b>Actual Pipe Size In Decimal Inches</b>		
	<b>O.D.</b>	<b>Wall</b>		<b>O.D.</b>	<b>Wall</b>	
1/8	0.405	0.068	3-1/2	4.000	0.237	
1/4	0.540	0.088	4	4.500	0.247	
3/8	0.675	0.091	5	5.563	0.258	
1/2	0.840	0.109	6	6.625	0.280	
3/4	1.050	0.113	7	7.625	0.280	
1	1.315	0.133	8	8.625	0.332	
1-1/4	1.660	0.140	9	9.625	0.342	
1-1/2	1.900	0.145	10	10.750	0.365	
2	2.375	0.154	11	11.750	0.375	
2-1/2	2.875	0.203	12	12.750	0.37	
3	3.5	0.216				

NOTE: Pipe sizes greater than 12 inches are measured according to O.D.  
Example – A nominal 14 inch pipe is 14 inch O.D.

<b>Guidelines for Hourly Ratings of Concrete Versus Thickness</b>		
<b>Fire Resistance (Hours)</b>	<b>Lightweight Concrete (Inches)</b>	<b>Normal Weight Concrete (Inches)</b>
1.0	3.0	3.5
1.5	3.5	4.25
2.0	3.75	5.0
3.0	4.5	6.25
*4.0	5.25 - 5.5	8.0

\*4-hour fire resistance ratings are approximate.  
NOTE: Some assemblies have a different thickness of top coat depending on the fire resistance of the assembly designs. Make firestop system selection based on hourly rating of design if thickness is not known.

## 3M™ Fire Barrier Wrap Ultra GS

<b>Schedule 40 PVC – Nominal Pipe Size</b> <b>Length of 2" 3M™ Fire Barrier Wrap Ultra GS Needed (Inches)</b>						
<b>Nominal Pipe Size</b>	<b>Actual Pipe Size in Decimal Inches</b>	<b>1 Wrap</b>	<b>2 Wraps</b>	<b>3 Wraps</b>	<b>4 Wraps</b>	<b>Length of 3M™ Fire Barrier RC-1 Restricting Collar Needed (Inches)</b>
1-1/2"	1.900	5.97				7.75
2"	2.375	7.46	15.71			10.00
3"	3.500		22.78	35.34		14.50
4"	4.500			44.77	61.26	18.25
5"	5.563				149.24 (double stacked to 4" width)	20.75 (2 lengths required)
6"	6.625				175.92 (double stacked to 4" width)	25.00 (2 lengths required)

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## 3M™ Fire Barrier Sealant

### Lineal Feet per Gallon Method

1/4" depth		1/2" depth		1" depth	
Joint Width (Inches)	Lineal Feet/Gallon	Joint Width (Inches)	Lineal Feet/Gallon	Joint Width (Inches)	Lineal Feet/Gallon
1/8	614	1/8	307	1/8	153
1/4	307	1/4	153	1/4	76
3/8	204	3/8	102	3/8	51
1/2	153	1/2	76	1/2	38
5/8	123	5/8	61	5/8	30
3/4	102	3/4	51	3/4	25
7/8	87	7/8	44	7/8	22
1	76	1	38	1	19
1-1/4	61	1-1/4	30	1-1/4	15
1-1/2	51	1-1/2	25	1-1/2	12
1-3/4	44	1-3/4	22	1-3/4	11
2	38	2	19	2	9
2-1/4	34	2-1/4	17	2-1/4	8
2-1/2	30	2-1/2	15	2-1/2	7
2-3/4	28	2-3/4	14	2-3/4	7
3	25	3	12	3	6
3-1/4	23	3-1/4	11	3-1/4	6
3-1/2	22	3-1/2	11	3-1/2	5
3-3/4	20	3-3/4	10	3-3/4	5
4	19	4	9	4	4
4-1/4	18	4-1/4	9	4-1/4	4
4-1/2	17	4-1/2	8	4-1/2	4
4-3/4	16	4-3/4	8	4-3/4	4
5	15	5	7	5	3
5-1/4	14	5-1/4	7	5-1/4	3
5-1/2	14	5-1/2	7	5-1/2	3
5-3/4	13	5-3/4	6	5-3/4	3
6	12	6	6	6	3
6-1/4	12	6-1/4	6	6-1/4	3
6-1/2	11	6-1/2	6	6-1/2	3
6-3/4	11	6-3/4	5	6-3/4	2
7	11	7	5	7	2
7-1/4	10	7-1/4	5	7-1/4	2
7-1/2	10	7-1/2	5	7-1/2	2
7-3/4	10	7-3/4	5	7-3/4	2
8	9	8	4	8	2

# Job Estimating

## 3M™ FireDam™ Spray 200

### Lineal Feet per Gallon Method

<b>1/8" Coating with 1/2" Overlap</b>		<b>1/8" Coating with 1" Overlap</b>	
<b>Joint Width (Inches)</b>	<b>Lineal Feet/Gallon</b>	<b>Joint Width (Inches)</b>	<b>Lineal Feet/Gallon</b>
1/8	136	1/8	72
1/4	123	1/4	68
3/8	111	3/8	64
1/2	102	1/2	61
5/8	94	5/8	58
3/4	87	3/4	55
7/8	82	7/8	53
1	76	1	51
1-1/4	68	1-1/4	47
1-1/2	61	1-1/2	44
1-3/4	55	1-3/4	41
2	51	2	38
2-1/4	47	2-1/4	36
2-1/2	44	2-1/2	34
2-3/4	41	2-3/4	32
3	38	3	30
3-1/4	36	3-1/4	29
3-1/2	34	3-1/2	28
3-3/4	32	3-3/4	26
4	30	4	25
4-1/4	29	4-1/4	24
4-1/2	28	4-1/2	23
4-3/4	26	4-3/4	22
5	25	5	22
5-1/4	24	5-1/4	21
5-1/2	23	5-1/2	20
5-3/4	22	5-3/4	19
6	22	6	19
6-1/4	21	6-1/4	18
6-1/2	20	6-1/2	18
6-3/4	19	6-3/4	17
7	19	7	17
7-1/4	18	7-1/4	16
7-1/2	18	7-1/2	16
7-3/4	17	7-3/4	15
8	17	8	15

# Job Estimating

## 3M™ Fire Barrier Sealant

### Bare Metallic Pipe

For applications requiring 1 inch depth (25.4 mm)

(Divide by 2 for ½" (12.7 mm) applications), (Divide by 4 for ¼" (6.35 mm)). Results are in square inches.

Nominal Hole Dia. (inches)	Nominal Pipe Size (ID) (Inches)													
	1/2	3/4	1	1-1/2	2-1/2	3	3-1/2	4	4-1/2	5	6	8	10	12
1	.2324													
2	2.6024	2.289	1.796	0.308										
3	6.5524	6.239	5.748	4.258	2.6538	0.58								
4	12.0824	11.769	11.278	9.788	8.1838	6.11	2.9624							
5		18.879	18.388	16.896	15.2938	13.22	10.0724	7.11	3.7524					
6					23.964	21.91	18.7624	15.80	12.4424	3.9918				
7							29.03	26.07	22.712	14.2618	4.0364			
8								37.92	34.50	26.11	15.864			
9										39.54	29.316	5.2214		
10											34.67	20.230		
11												38.820	4.2956	
12												54.99	22.464	5.0856
13													42.214	26.414
14													63.772	49.324
15														73.814

### Insulated Pipe

For applications requiring 1 inch depth (25.4 mm)

(Divide by 2 for ½" (12.7 mm) applications), (Divide by 4 for ¼" (6.35 mm)). Results are in square inches.

Nominal Hole Dia. (inches)	Nominal Pipe Size (ID) (Inches) (Outside Pipe Diameter + 1 Inch Pipe Insulation) (Inches)													
	1/2 (2.84)	3/4 (3.05)	1 (3.313)	1-1/2 (3.9)	2 (4.375)	2-1/2 (4.875)	3 (5.5)	3-1/2 (6.0)	4 (6.5)	5 (7.563)	6 (8.625)	8 (10.625)	10 (12.75)	12 (14.75)
4	6.27													
5	13.38	12.43	11.08	7.73										
6				16.38	13.28	9.63								
7						19.94	14.80	9.26						
8								22.12	17.18					
9														
10										33.81				
11											36.79			
12														
13												44.33		
14														
15													49.23	
16														
17														56.44

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## 3M™ Fire Barrier Wrap Strips

### 3M™ Fire Barrier Wrap Strips FS-195+ Schedule 40 PVC – Nominal Pipe Size

Nominal Hole	1st Layer ± .25"	2nd Layer ± .25"	3rd Layer ± .25"	4th Layer ± .25"	5th Layer ± .25"	6th Layer ± .25"	RC-1 ± .25"
.75	5.00						6.00
1.00	5.75						6.75
1.50	7.75						8.75
2.00	9.25						10.25
3.00	12.75	14.1					15.10
4.00	15.75	17.5	19.0				20.00
6.00	22.30	24.0	25.5				26.50
8.00	28.60	30.2	32.0	33.3			34.30
10.00	35.50	37.1	38.7	40.2	41.8	43.3	44.30