

<b>Seismic Bracing Calculations</b>						Sheet _____ of _____
Project: _____		Contractor: _____				
Address: _____		Address: _____				
_____		Telephone: _____				
_____		Fax: _____				
Brace Information			Seismic Brace Attachments			
Length of brace: _____			Structure attachment fitting or tension-only bracing system:			
Diameter of brace: _____			Make: _____ Model: _____			
Type of brace: _____			Transition attachment fitting (where applicable):			
Angle of brace: _____			Make: _____ Model: _____			
Least radius of gyration:* _____			Listed load rating: _____ Adjusted load rating per 18.5.2.3: _____			
//r value:* _____			Sway brace (pipe attachment) fitting:			
Maximum horizontal load: _____			Make: _____ Model: _____			
_____			Listed load rating: _____ Adjusted load rating per 18.5.2.3: _____			
Fastener Information			Seismic Brace Assembly Detail			
Orientation of connecting surface: _____			(Provide detail on plans)			
Fastener:			Brace identification no. _____			
Type: _____			(to be used on plans) _____			
Diameter: _____			<input type="checkbox"/> Lateral brace			
Length (in wood): _____			<input type="checkbox"/> Longitudinal brace			
Maximum load: _____			<input type="checkbox"/> 4-way brace			
<b>Sprinkler System Load Calculation (<math>F_{pw} = C_p W_p</math>)</b>						
$C_p =$ _____						
Diameter	Type	Length (ft)	Total (ft)	Weight per ft	Weight	
				lb/ft	lb	
				lb/ft	lb	
				lb/ft	lb	
				lb/ft	lb	
				lb/ft	lb	
				Subtotal weight	lb	
$W_p$ (incl. 15%)					lb	
Main Size	Type\Sch.	Spacing (ft)	Total ( $F_{pw}$ )		lb	
Maximum $F_{pw}$ per 18.5.5.2 (if applicable)						
* Excludes tension-only bracing systems					NFPA 13	
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FIGURE A.18.5(a) Seismic Bracing Calculation Form.

## Seismic Bracing Calculations

Sheet \_\_\_\_\_ of \_\_\_\_\_

Project: <u>Acme Warehouse</u> Address: <u>321 First Street</u> <u>Any City, Any State</u>	Contractor: <u>Smith Sprinkler Company</u> Address: <u>123 Main Street</u> <u>Any City, Any State</u> Telephone: <u>(555) 555-1234</u> Fax: <u>(555) 555-4321</u>
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Brace Information	Seismic Brace Attachments
Length of brace: <u>3 ft 6 in.</u> Diameter of brace: <u>1 in.</u> Type of brace: <u>Schedule 40</u> Angle of brace: <u>45° to 59°</u> Least radius of gyration*: <u>0.421</u> //r value*: <u>100</u> Maximum horizontal load: <u>4455 lb</u>	Structure attachment fitting or tension-only bracing system: Make: <u>Bolt</u> Model: <u>Bolt</u> Listed load rating: <u>- - -</u> Adjusted load rating per 18.5.2.3: <u>- - -</u> Transition attachment fitting (where applicable): Make: <u>Acme</u> Model: <u>123</u> Listed load rating: <u>1000</u> Adjusted load rating per 18.5.2.3: <u>707</u> Sway brace (pipe attachment) fitting: Make: <u>Acme</u> Model: <u>321</u> Listed load rating: <u>1200</u> Adjusted load rating per 18.5.2.3: <u>849</u>

Fastener Information	Seismic Brace Assembly Detail
Orientation of connecting surface: <u>"E"</u> Fastener: Type: <u>Through bolt</u> Diameter: <u>3/4 in.</u> Length (in wood): <u>5 1/2 in.</u> Maximum load: <u>620 lb</u>	<p><b>Seismic Brace Assembly Detail</b> (Provide detail on plans)</p> <p>Brace identification no. (to be used on plans) <u>SB-1</u></p> <p><input checked="" type="checkbox"/> Lateral brace    <input type="checkbox"/> Longitudinal brace    <input type="checkbox"/> 4-way brace</p>

### Sprinkler System Load Calculation ( $F_{pw} = C_p W_p$ )

$C_p = \underline{0.40}$

Diameter	Type	Length (ft)	Total (ft)	Weight per ft	Weight
1 in.	Sch. 40	15 ft + 25 ft + 8 ft + 22 ft	70 ft	2.05 lb/ft	143.5 lb
1 1/4 in.	Sch. 40	25 ft + 33 ft + 18 ft	76 ft	2.93 lb/ft	222.7 lb
1 1/2 in.	Sch. 40	8 ft + 8 ft + 10 ft + 10 ft	36 ft	3.61 lb/ft	130.0 lb
2 in.	Sch. 40	20 ft	20 ft	5.13 lb/ft	102.6 lb
4 in.	Sch. 10	20 ft	20 ft	11.78 lb/ft	235.6 lb
Subtotal weight					834.4 lb
$W_p$ (incl. 15%)					959.6 lb
Main Size	Type\Sch.	Spacing (ft)	Total ( $F_{pw}$ )		383.8 lb
4 in.	Sch. 10	20 ft	Maximum $F_{pw}$ per 18.5.5.2 (if applicable)		1634

\* Excludes tension-only bracing systems  
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FIGURE A.18.5(b) Sample Seismic Bracing Calculation Form.