**Frame Stiffness**

Given the workpoint configuration and CoreBrace's expertise, the effective horizontal stiffness can be summarized by the following statement:

1. **Brace Form**
   - If $k_e$ and $k_t$ are assumed rigid, the equation for $K_{F}$ simplifies to:

2. **Frame Deflection (Elastic)**
   - Effective through-the-thickness stiffness of composite material

3. **Rigid Assumption**
   - Axial stiffness adjustment factor

4. **Frame Stiffness**
   - The effective horizontal stiffness can be summarized by the following statement:

For approximate stiffness modification factors, $K_{F}$, values given are intended for schematic design only. Contact CoreBrace for project specific information.

For design assistance, please contact CoreBrace:

5789 West Wells Park Road
West Jordan, UT 84081
801.280.0701
www.corebrace.com

**Frame Stiffness Tables**

Brace stiffness is summarized by the following statement:

1. **Brace Force**
   - $F_e = \frac{P}{A_{be}}$ (Equation 1)

2. **Brace Stiffness & Stiffness (Elastic)**
   - $K_{ef} = \frac{F_e}{L_{w}}$

3. **Frame Deflection (Elastic)**
   - $\Delta_f = \frac{F_e}{K_{ef}}$

4. **Rigid Assumption**
   - $K_F = \frac{K_{ef}}{0.9}$

5. **Approximate Stiffness Modification Factors, $K_{F}$**

For a list of recommended options, contact CoreBrace or refer to their web site.
### Approximate Casing Sizes \(^{1,4}\) (in ft (m))

<table>
<thead>
<tr>
<th>Bay Width, ft (m)</th>
<th>Casing Size</th>
<th>WALL THICKNESS (in (mm))</th>
<th>WALL THICKNESS (in (mm))</th>
<th>WALL THICKNESS (in (mm))</th>
<th>WALL THICKNESS (in (mm))</th>
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<th>WALL THICKNESS (in (mm))</th>
<th>WALL THICKNESS (in (mm))</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.0 (90)</td>
<td>W14×109</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
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<td>0.125 (3.2)</td>
</tr>
<tr>
<td>16.0 (103)</td>
<td>W14×109</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
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<td>0.125 (3.2)</td>
</tr>
<tr>
<td>18.0 (114)</td>
<td>W14×109</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
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<td>0.125 (3.2)</td>
</tr>
<tr>
<td>20.0 (126)</td>
<td>W14×109</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
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<td>0.125 (3.2)</td>
<td>0.125 (3.2)</td>
</tr>
</tbody>
</table>

### Bolted Lug Brace and Casing Information

- **Brace Information**
  - Bolted lug braces are designed to provide additional strength and stiffness to the building's exterior framing. They are typically used in seismic or wind-prone areas to resist forces and maintain structural integrity.

- **Material Specifications**
  - BRBs are made from high-strength steel, often in grades such as A36, which are chosen for their durability and resistance to deformation under stress.

- **Design Considerations**
  - The selection of BRB size and type should be based on the specific seismic or wind loading conditions of the building.

- **Installation Guidelines**
  - BRBs are typically fixed to the building envelope using bolts, and their design must account for the appropriate load distribution to prevent failure at any joint.

### Workpoint Length, ft (m)

- **For design assistance**, please contact CoreBrace:
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  - West Jordan, UT 84081
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  - www.corebrace.com

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1. See Table 1 of Section 106.1.1.1(4) of ASCE 7-10 for bay width and story height.
2. \( I_{x} \) is the maximum moment of inertia of the Casing and is calculated as the sum of the moment of inertia of the two plates.
3. \( I_{y} \) is the maximum moment of inertia of the Casing and is calculated as the sum of the moment of inertia of the two plates.
4. \( I_{x} \) is the Moment of Inertia of the Casing and is calculated as the sum of the moment of inertia of the two plates.
5. \( I_{y} \) is the Moment of Inertia of the Casing and is calculated as the sum of the moment of inertia of the two plates.
6. Adjusted brace strength based on coupon tests of steel plates. In such cases, \( P_{y} \) may be taken equal to 1.3 in the above equation. (See ASCE 7-10)