

# SECURITY GRATES

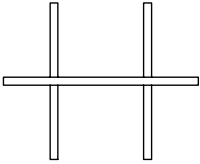
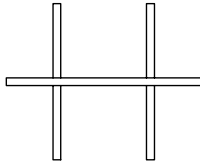
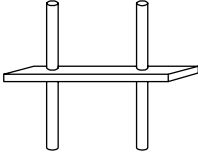
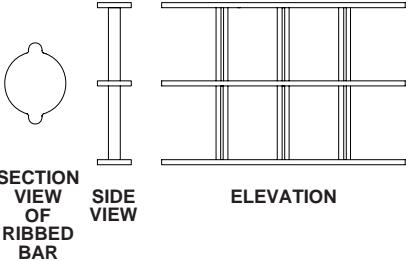
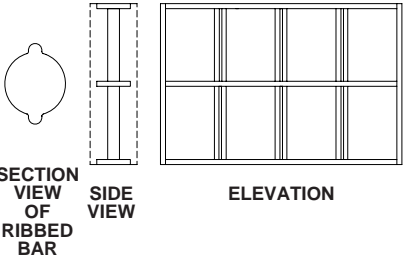
FRAME STYLE	FRAME DESIGN SIDE                      FRONT	CONSTRUCTION TYPICAL APPLICATION	REQUIRED CONSTRUCTION
<b>A</b>		<p>2-1/2" x 2-1/2" x 1/4" angle iron frame. Welded continuously at corners. OPTIONS: Other sizes of angle iron, corners filled in, bolt holes. TYPICAL APPLICATION: Mounting in metal deck or roof framing (bolted or welded) or bolted to wall with masonry anchors.</p>	<p><b>SLEEVE</b></p> <p>Gauge _____</p> <p>Material _____</p> <p><b>ANGLE FRAME</b></p> <p>Size _____</p> <p>Other Options _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><b>HORIZONTAL BARS</b></p> <p>Size _____</p> <p>Material _____</p> <p>Inches O.C. _____</p> <p><b>VERTICAL BARS</b></p> <p>Size _____</p> <p>Material _____</p> <p>Inches O.C. _____</p> <p><b>STANDARD FINISH: PRIME COAT</b></p>
<b>B</b>		<p>2" x 1/4" flat steel frame. Welded continuously at corners. OPTIONS: Other flat sizes. TYPICAL APPLICATION: Mounting in ductwork or other framing. Can be used to add security bars to existing sleeves or grilles.</p>	
<b>C</b>		<p>3/16" steel sleeve continuously welded with 1" x 1" x 3/16" angle frame factory welded to one end. Furnished loose on other end for field welding. OPTIONS: Sleeve gauges, angle frame size, loose angle frame for field bolting, collar length, both angles welded. TYPICAL APPLICATION: Mounting in existing opening, one angle frame loose for field mounting (weld or bolt). Allows for duct connections on both sides. Can also be poured in place or set with block if both angles factory welded.</p>	
<b>D</b>		<p>3/16" steel sleeve with bent flanges. Sleeve continuously welded. OPTIONS: Sleeve gauges, flange height, corners filled in, masonry anchor rods, one side flanged. TYPICAL APPLICATION: Poured in place or set with concrete block - new construction only.</p>	
<b>G</b>		<p>3/16" steel sleeve with 3" x 1/4" flat bar welded 1" from one end. OPTIONS: Sleeve gauge, flat bar gauge and location, bolt holes. TYPICAL APPLICATION: For welding or bolting to wall - one side only - allows for duct connections on both sides of wall.</p>	

## SEE REVERSE SIDE FOR VARIOUS BAR OPTIONS

Qty.	Style		Listed Size		Frame O.D.		Finish	Tag
	Frame	Bar	W	H	W	H		

To maintain KEES' policy of continuous product improvement, we reserve the right to change prices, specifications, ratings or dimensions without notice or obligation.


<b>Project</b>		<b>Location</b>		
<b>Engineer</b>			<p><b>KEES INCORPORATED</b> 400 S. Industrial Dr. • P.O. Box L Elkhart Lake, WI 53020 Phone: (920) 876-3391 Fax: (920) 876-3065 Website: www.kees.com</p>	
<b>Architect</b>		<b>Dwg. No.</b>		<b>GRATE FRAMES</b>
<b>Contractor</b>		<b>Date</b>		<b>12-02</b>

BAR STYLE	BAR DESIGN	CONSTRUCTION	REQUIRED CONSTRUCTION
1		1/2" diameter H.R.S. bars. 6" O.C. both ways. Welded to frame and at cross points.  OPTIONS: Other bar sizes and spacing. Other materials.	<b>FRAME</b>  Size _____  Material _____  Other Options _____ _____ _____ _____
1H		1/2" diameter steel case hardened to Rockwell C-60, .060" minimum effective case depth 6" O.C. both ways. Bars welded to frame and at intersections.  OPTIONS: 7/8" and 1" bar sizes, other spacing.	
2		3/4" diameter H.R.S. vertical bars 6" O.C. 2" x 1/4" flat steel horizontal bars 8" O.C. All bars welded to frame and at cross points.  OPTIONS: Other bar sizes and spacing. Other materials.	
5		7/8" diameter hardened steel ribbed vertical bars 6" O.C. 2-1/2" x 3/8" hardened steel horizontal bars 12" O.C. on sizes over 12" high. Vertical bars set into 2-1/2" x 3/8" hardened steel bars stitch welded to top and bottom of sleeve. Vertical bars rotated to interlock with intermediate horizontal bars. Ribbed bars meet ASTM A627. Flat bars meet ASTM A629.  OPTIONS: Other bar spacing.	<b>HORIZONTAL BARS</b>  Size _____  Material _____  Inches O.C. _____  <b>VERTICAL BARS</b>  Size _____  Material _____  Inches O.C. _____
5F		7/8" diameter hardened steel ribbed vertical bars 6" O.C. 2-1/2" x 3/8" hardened steel horizontal bars 12" O.C. on sizes over 12" high. Vertical bars set into 2-1/2" x 3/8" hardened steel bars stitch welded to top and bottom of sleeve. Intermediate bars set into 3-1/2" x 3/8" hardened steel flat bars at sides of sleeve. Flat bars are stitch welded to sleeve forming a hardened steel frame. Vertical bars rotated to interlock with intermediate horizontal bars. Ribbed bars meet ASTM A627. Flat bars meet ASTM A629.  OPTIONS: Other bar spacing.	<b>STANDARD FINISH: PRIME COAT</b>

**SEE REVERSE SIDE FOR FRAMING OPTIONS**

Qty.	Style		Listed Size		Sleeve O.D.		Sleeve Length L	Wall Thickness T	Finish	Tag
	Frame	Bar	W	H	W	H				

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<b>Architect</b>			<b>Dwg. No.</b>	<b>GRATE BARS</b>
<b>Contractor</b>			<b>Date</b>	<b>12-02</b>