

# If a ceiling grid is present or needed, why not use it as a raceway?

## Eric Grant

Technical Sales Specialist  
Eaton's Crouse-Hinds, B-Line and Oil and Gas Group  
Highland, IL, USA

### Challenge:

Construction trends in commercial space have led to the open ceiling concept. Open ceilings have adopted the use of strut grid systems for lighting, HVAC and other non-structural supports.

### Solution:

B-Line series 1<sup>5</sup>/<sub>8</sub>" solid strut (B22) is UL 5B Listed and can be used in accordance with section 384 of NFPA 70; therefore, it functions as both a support and a wireway.

This makes it ideal to use as a raceway in a pre-existing B22 channel ceiling grid or a newly specified grid systems to run your low voltage wiring system. It is important to note that the maximum allowable voltage carried must be below 600 volts and that it can be used with clad and non-clad wiring.



## A complete raceway system

Instead of creating a brand-new raceway system, Eaton can help you incorporate your wire pathways into B-Line series strut channel structure and full line of electrical accessories.

When it comes to material and time savings, the B22 channel is just one important part of the story. The other are the connections and the interior space.

Connections are mostly made to the exterior of the strut channel, while those on the interior are specifically designed to take up very negligible space.

With B22 channel and B-Line series electrical accessories, it creates a compliant raceway from receptacles to lighting and power, resulting in a complete interior option.

## B22 strut channel meets the NEC guidelines of 40% max fill while running more wires

Per NEC guidelines, only a 40% max wire fill is allowed. Unlike conduits, wire is simply laid into channel. This allows a larger capacity of wire to be laid into strut than conduit.

When the wires are filled to the top of the channel, it will still be at or below the NEC guideline of 40% fill. This is possible, because the annular space around the cables counts as open space. Simply snap the B-Line series closure strip into the B22 channel and its complete.

## Optimize your install time and materials by creating a strut grid as a race way and non-structural support

The connector options for mounting receptacles, hangers, and attachments for controls, NEMA type enclosures, luminaires, signage, occupation and safety equipment are virtually endless.

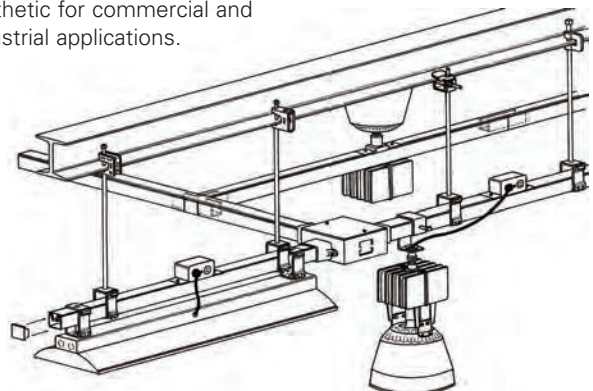
Traditional systems are installed in sections with single purpose applications in mind. Supports for the conduits, then supports for the ductwork, then supports for the plumbing and heating pipes, supports for the cable trays, and on and on. These become redundant and expensive.

To optimize and streamline materials and installation time, a strut grid can be an architectural feature that serves a utilitarian as well as a structural purpose. All non-structural services could land on the grid.

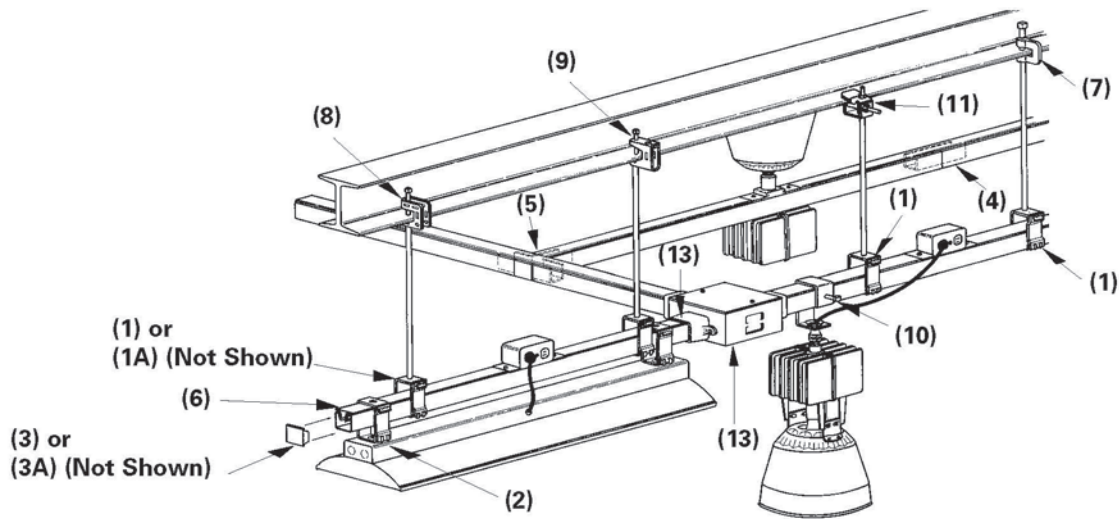
Load ratings can be established on a per square foot basis, making the structural attachments predictable in both capacity and layout application. Spreading the load out can help contractors stay within parameters of the structures capacity without additional engineering concerns by the (SEOR) Structural Engineer of Record.

## Conclusion

Strut grids using B-Line series solid strut, model B22, and electrical accessories as a raceway and non-structural support system, installers can save time, materials and maximize their profit. Plus, the strut grid provides a pleasing aesthetic for commercial and industrial applications.



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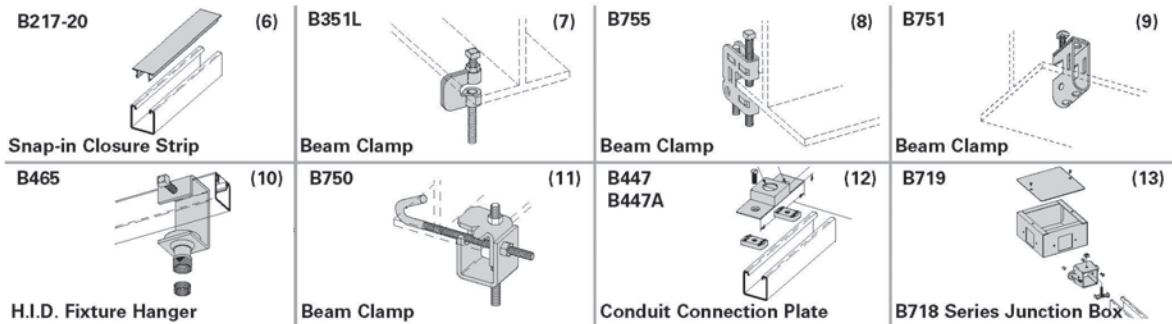
**Selection Chart**

Channel Number	Depth in. mm	1 Channel Hanger	1A Channel Hanger	2 Fixture Hanger	3 End Cap	3A Connection End Cap	4 Internal Straight Splice	5 Internal Tee Splice
<b>B22A</b>	3 1/4" (82.5)	B616-22A*	B241S*	B616S-22A*	B205 or B285	B392-22**	B766-22 (2) B285	B768-22 (2)
<b>B11</b>	3 1/4" (82.5)	B616-22A*	B241S*	B616S-22A*	B222	B392-11**	B766-11	B768-11
<b>B12</b>	2 7/16" (61.9)	B616-22A*	B241S*	B616S-22A*	B221	B392-12**	B766-12	B768-12
<b>B22</b> <b>B24</b>	1 5/8" (41.3)	B616*	B216S*	B616S* B616TG*	B205 or B285 B223 or B286	B392-22**	B766-22	B768-22
<b>B26</b>	1 5/8" (41.3)	B616*	-	-	-	B392-22**	-	-
<b>B32</b>	1 3/8" (34.9)	B616*	B216S*	B616S* B616TG*	B206	B392-32**	B766-32	B768-32
<b>B42</b>	1" (25.4)	B616*	B215S*	B616S* B616TG*	B203	-	B766-42	B768-42
<b>B52</b> <b>B54</b>	1 3/16" (20.6)	B616*	B215S*	B616S* B616TG*	B220 or B283 B204 or B284	-	B766-52	B768-52
<b>B56</b>	1 3/16" (20.6)	B616*	B215S*	B616S* B616TG*	-	-	B766-56	-

\*Specify Hanger Rod or Conduit Size.

\*\*Specify Conduit Size

**Other Items Shown on Illustration**



**For more information, visit  
[Eaton.com/strut-raceway.](http://Eaton.com/strut-raceway)**

**Eaton**  
 1000 Eaton Boulevard  
 Cleveland, OH 44122  
 United States  
 Eaton.com

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