#### IHS

#### **I-Joist Hole Support**



The IHS is designed to strengthen I-joists when holes are required to be cut in locations not normally permitted.

- Allows holes to be cut 50mm from bearing point, which allows services to run close to external walls.
- Variable hole sizes from 150mm to a maximum width of 250mm.
- Supplied as 2 sets of 2 interlocking plates (1 set per side of l-joist) which always allows the IHS to be fitted, even when services are already in-situ.
- Helps to eliminate expensive and time consuming joist trimming for SVP (soil vent pipe) runs.
- Can be used on single and double ply ljoists.

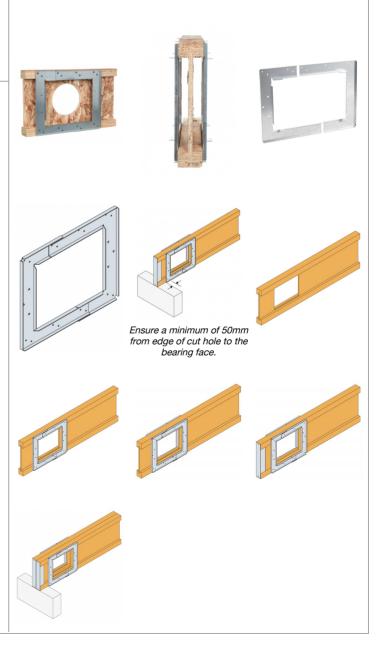


#### Materials

· Pre-galvanised mild steel







IHS

#### **I-Joist Hole Support**



## **Technical Data**

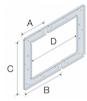
# C

## IHS Product Dimensions

| References | Fasteners        |          |                       |               |  |  |  |
|------------|------------------|----------|-----------------------|---------------|--|--|--|
|            | 150 mm Bracket 0 | pening   | 250mm Bracket Opening |               |  |  |  |
|            | Specification    | Quantity | Quantity              | Specification |  |  |  |
| IHS240     | 3.75x30mm        | 24       | 32                    | 3.75x30mm     |  |  |  |
| IHS300     | 3.75x30mm        | 24       | 32                    | 3.75x30mm     |  |  |  |

- 1) Use 3.75x30mm Square Twist Nails
- 2) Number of fasteners is per hole in joist





#### Dimensions Br46

| References | NOBB nr.  | Mål [mm] |       |     |         |  |  |
|------------|-----------|----------|-------|-----|---------|--|--|
|            | NODD III. | Α        | В     | С   | D       |  |  |
| IHS240     | -         | 148.5    | 248.5 | 240 | 150-250 |  |  |
| IHS300     | -         | 148.5    | 248.5 | 300 | 150-250 |  |  |
| IHS350     | -         | 148.5    | 248.5 | 350 | 150-250 |  |  |

#### IHS Characteristc Performance: Boise I-Joist - 60mm

|                  |  |              | Maximum Allowable Rectangular Hole | Shear Capacity at Location of IHS |  |                         |            |  |  |
|------------------|--|--------------|------------------------------------|-----------------------------------|--|-------------------------|------------|--|--|
| References Joist | Joist  | 1-1-411-1-64 |                                    | Permissible loads                 | Intermediate Floor Joist Applications) | Characteristic capacity |            |  |  |
| References       | Type Joist Height Size with IHS (d x w in mm)  1 ply |              | ,                                  | V <sub>hole</sub> (IHS Installed) | V <sub>k,hole</sub> (IHS Installed)    |                         |            |  |  |
|                  |  |              |                                    | 1 ply                             | Double Ply                             | 1 ply                   | Double Ply |  |  |
| IHS240           | BCI60  | 241          | 150 x 250                          | 2.51                              | 3.65                                   | 6.76                    | 9.83       |  |  |
| IHS300           | BCI60  | 302          | 200 x 250                          | 3.06                              | 4.45                                   | 8.24                    | 11.98      |  |  |
| IHS350           | -  | -            | -                                  | -                                 | -                                      | -                       | -          |  |  |

## IHS Performance: Boise (BCI90) I-Joist

|            |               |                      |  | Shear Capacity at Location of IHS [kN]                     |            |  |            |  |  |
|------------|---------------|----------------------|--|--|------------|--|------------|--|--|
| References | Joist<br>Type | Joist Height<br>[mm] | Max. allowable hole size with IHS (d x | Characteristic capacity  V <sub>hole</sub> (IHS Installed) |            | Permissible loads (Intermediate Floor Joist<br>Applications) |            |  |  |
|            | туре          | [iiiiii]             | w)                                     |  |            | V <sub>k,hole</sub> (IHS Installed)                          |            |  |  |
|            |               |                      |  | 1 ply  | Double Ply | 1 ply  | Double Ply |  |  |
| IHS240     | BCI90         | 241                  | 150 x 250                              | 2.51   | 3.65       | 6.76   | 9.83       |  |  |
| IHS300     | BCI90         | 302                  | 200 x 250                              | 3.06   | 4.45       | 8.24   | 11.98      |  |  |
| IHS350     | -             | -                    | -                                      | -  | -          | -  | -          |  |  |

IHS

## **I-Joist Hole Support**



IHS Performance: Boise (BCI4500) I-Joist

|            | Joist Joist Height |      | Shear Capacity at Location of IHS [kN] |                                   |  |                                     |            |
|------------|--------------------|------|--|-----------------------------------|--|-------------------------------------|------------|
| References |                    | •    | Max. allowable hole size with IHS (d x | Permissible                       | loads (Intermediate Floor Joist<br>Applications) | Characteristic capacity             |            |
|            | Туре               | [mm] | w)                                     | V <sub>hole</sub> (IHS Installed) |  | V <sub>k,hole</sub> (IHS Installed) |            |
|            |                    |      |  | 1 ply                             | Double Ply                                       | 1 ply                               | Double Ply |
| IHS240     | BCI4500            | 241  | 150 x 250                              | 1.77                              | 2.22   | 4.78                                | 5.97       |
| IHS300     | BCI4500            | 302  | 200 x 250                              | 2.17                              | 2.71   | 5.85                                | 7.31       |
| IHS350     | -                  | -    | -                                      | -                                 | -  | -                                   | -          |

IHS Performance: Boise (BCl6000) I-Joist

|                       | _       |              | Max. allowable hole size with IHS (d x | Shear Capacity at Location of IHS [kN] |  |                         |            |  |
|-----------------------|---------|--------------|--|--|--|-------------------------|------------|--|
| References Joist Type |         | Joist Height |  | Permissible I                          | loads (Intermediate Floor Joist<br>Applications) | Characteristic capacity |            |  |
|                       | [mm]    | w)           | V                                      | V <sub>k,hole</sub> (IHS Installed)    |  |                         |            |  |
|                       |         |              |  | 1 ply                                  | Double Ply                                       | 1 ply                   | Double Ply |  |
| IHS240                | BCI6000 | 241          | 150 x 250                              | 1.77                                   | 2.22   | 4.78                    | 5.97       |  |
| IHS300                | BCI6000 | 302          | 200 x 250                              | 2.17                                   | 2.71   | 5.85                    | 7.31       |  |
| IHS350                | -       | -            | -                                      | -                                      | -  | -                       | -          |  |

IHS Performance: James Jones (JJI A+) I-Joist

|            |   |      |               | Shear Capacity at Location of IHS [kN]                       |            |  |            |  |
|------------|---|------|---------------|--|------------|--|------------|--|
| Deferences | loiet Height May allowable hole eize with IHS |      | Permissible I | Permissible loads (Intermediate Floor Joist<br>Applications) |            |  |            |  |
| References | Joist Type                                    | [mm] | (d x w)       | V <sub>hole</sub> (IHS Installed)                            |            | V <sub>k,hole</sub> (IHS<br>Installed) |            |  |
|            |   | 1 pl |               | 1 ply  | Double Ply | 1 ply                                  | Double Ply |  |
| IHS240     | JJI-Joist A+<br>(47mm)                        | 245  | 150 x 250     | 2.97   | 3.96       | 7.25                                   | 9.66       |  |
| IHS300     | JJI-Joist A+<br>(47mm)                        | 300  | 200 x 250     | 3.41   | 4.55       | 8.32                                   | 11.09      |  |

IHS Performance: James Jones (JJI B+) I-Joist

|             |  |      |               |                         | Shear Capacity at Location of IHS [kN] |       |            |  |  |
|-------------|--|------|---------------|-------------------------|--|-------|------------|--|--|
| Deference   | Joist height Max. allowable hole size with IHS |      | Permissible I | Characteristic capacity |  |       |            |  |  |
| neielelices | References Joist Type                          | [mm] | (d x w)       | V                       | V <sub>hole</sub> (IHS Installed)      |       |            |  |  |
|             |  |      |               | 1 ply                   | Double Ply                             | 1 ply | Double Ply |  |  |
| IHS240      | JJI-Joist B+ (63<br>mm)                        | 245  | 150 x 250     | 3.25                    | 4.33                                   | 7.91  | 10.55      |  |  |
| IHS300      | JJI-Joist B+ (63<br>mm)                        | 300  | 200 x 250     | 3.67                    | 4.89                                   | 8.95  | 11.93      |  |  |

IHS

## **I-Joist Hole Support**



IHS Performance: James Jones (JJI C) I-Joist

|            |                        |              |                                   | Shear Capacity at Location of IHS [kN] |   |  |            |  |
|------------|------------------------|--------------|-----------------------------------|--|---|--|------------|--|
| D. f       | laist Time             | Joist Height | Max. allowable hole size with IHS | Permissible I                          | oads (Intermediate Floor Joist<br>Applications) | Characteristic capacity                |            |  |
| References | Joist Type             | [mm]         | (d x w)                           | V <sub>hole</sub> (IHS Installed)      |   | V <sub>k,hole</sub> (IHS<br>Installed) |            |  |
|            |                        |              |                                   | 1 ply                                  | Double Ply                                      | 1 ply                                  | Double Ply |  |
| IHS240     | JJI-Joist C (72<br>mm) | 245          | 150 x 250                         | 3.40                                   | 4.53  | 8.28                                   | 11.04      |  |
| IHS300     | JJI-Joist C (72<br>mm) | 300          | 200 x 250                         | 3.81                                   | 5.08  | 9.29                                   | 12.39      |  |

IHS Performance: James Jones (JJI D) I-Joist

|             |  |     |                                   | Shear Capacity at Location of IHS [kN]                       |                                   |       |                                  |  |
|-------------|--|-----|-----------------------------------|--|-----------------------------------|-------|----------------------------------|--|
| Deferences  | rerences Joist Type Joist Height Max. allowable hole size w [mm] (d x w) |     | Max. allowable hole size with IHS | Permissible loads (Intermediate Floor Joist<br>Applications) |                                   |       | racteristic<br>apacity           |  |
| neielelices |  |     | (d x w)                           | V  | V <sub>hole</sub> (IHS Installed) |       | <sub>hole</sub> (IHS<br>stalled) |  |
|             |  |     |                                   | 1 ply  | Double Ply                        | 1 ply | Double Ply                       |  |
| IHS240      | JJI-Joist D (97<br>mm)   | 245 | 150 x 250                         | 3.79   | 5.05                              | 9.24  | 12.32                            |  |
| IHS300      | JJI-Joist D (97<br>mm)   | 300 | 200 x 250                         | 4.2  | 5.60                              | 10.24 | 13.66                            |  |

IHS Performance: LP Building Products(LPI20Plus 63mm) I-Joist

|                                | Joist Joist Height |    | Shear Capacity at Location of IHS [kN] |                                     |  |                         |   |
|--------------------------------|--------------------|----|--|-------------------------------------|--|-------------------------|---|
| References Joist Type Joist He |                    |    | Max. allowable hole size with IHS (d x | Permissible                         | loads (Intermediate Floor Joist<br>Applications) | Characteristic capacity |   |
|                                | լուոյ              | w) | V                                      | V <sub>k,hole</sub> (IHS Installed) |  |                         |   |
|                                |                    |    | 1 ply                                  | Double Ply                          | 1 ply  | Double Ply              |   |
| IHS240                         | -                  | -  | -                                      | -                                   | -  | -                       | - |
| IHS300                         | -                  | -  | -                                      | -                                   | -  | -                       | - |
| IHS350                         | -                  | -  | -                                      | -                                   | -  | -                       | - |

IHS Performance: Masonite H (47mm Flange) I-Joist

|            |                      |       |               | Shear Capacity at Location of IHS [kN] |            |       |                                     |  |
|------------|----------------------|-------|---------------|--|------------|-------|-------------------------------------|--|
| References | Joist Height<br>[mm] | ` '   | Permissible I | Characteristic capacity                |            |       |                                     |  |
|            | туре                 | linni | [mm]          | V <sub>hole</sub> (IHS Installed)      |            |       | V <sub>k,hole</sub> (IHS Installed) |  |
|            |                      |       |               | 1 Ply                                  | Double Ply | 1 Ply | Double Ply                          |  |
| IHS240     | Н                    | 240   | 140 x 250     | 2.45                                   | 2.94       | 8.24  | 9.89                                |  |
| IHS300     | Н                    | 300   | 200 x 250     | 3.05                                   | 3.66       | 10.26 | 12.31                               |  |

IHS

## **I-Joist Hole Support**



IHS Performance: Masonite HM (60mm Flange) I-Joist

|            |       |              | Max allowable hole size with IHS (d x w) | Shear Capacity at Location of IHS [kN] |                         |                                     |            |  |
|------------|-------|--------------|--|--|-------------------------|-------------------------------------|------------|--|
| References | Joist | Joist Height |  | Permissible I                          | Characteristic capacity |                                     |            |  |
|            | Type  | [mm]         | [mm]                                     | V <sub>hole</sub> (IHS Installed)      |                         | V <sub>k,hole</sub> (IHS Installed) |            |  |
|            |       |              |  | 1 Ply                                  | Double Ply              | 1 Ply                               | Double Ply |  |
| IHS240     | НМ    | 240          | 140 x 250                                | 2.45                                   | 2.94                    | 8.24                                | 9.89       |  |
| IHS300     | НМ    | 300          | 200 x 250                                | 3.05                                   | 3.66                    | 10.26                               | 12.31      |  |

IHS Performance: Masonite HI (70mm flange) I-Joist

|            |               |              | Max. allowable hole size with IHS (d x w) | Shear Capacity at Location of IHS [kN] |                         |                                     |            |  |
|------------|---------------|--------------|---|--|-------------------------|-------------------------------------|------------|--|
| References | Joist<br>Type | Joist Height |   | Permissible                            | Characteristic capacity |                                     |            |  |
|            | Type          | [mm]         | [mm]                                      | V <sub>hole</sub> (IHS Installed)      |                         | V <sub>k,hole</sub> (IHS Installed) |            |  |
|            |               |              |   | 1 Ply                                  | Double Ply              | 1 Ply                               | Double Ply |  |
| IHS240     | HI            | 240          | 140 x 250                                 | 2.45                                   | 2.94                    | 8.24                                | 9.89       |  |
| IHS300     | HI            | 300          | 200 x 250                                 | 3.05                                   | 3.66                    | 10.26                               | 12.31      |  |

IHS Performance: Masonite HB (97mm flange) I-Joist

|            |               |              | Max. allowable hole size with IHS (d x w) | Shear Capacity at Location of IHS [kN]                       |            |                                     |                         |  |
|------------|---------------|--------------|---|--|------------|-------------------------------------|-------------------------|--|
| References | Joist<br>Type | Joist Height |   | Permissible loads (Intermediate Floor Joist<br>Applications) |            |                                     | Characteristic capacity |  |
|            | туре          | [mm]         | [mm]                                      | V <sub>hole</sub> (IHS Inst                                  |            | V <sub>k,hole</sub> (IHS Installed) |                         |  |
|            |               |              |   | 1 Ply  | Double Ply | 1 Ply                               | Double Ply              |  |
| IHS240     | НВ            | 240          | 140 x 250                                 | 2.5  | 2.9        | 8.2                                 | 9.9                     |  |
| IHS300     | НВ            | 300          | 200 x 250                                 | 3.1  | 3.7        | 10.3                                | 12.3                    |  |

IHS Performance: MetsaWood (FinnJoist 38mm) I-Joist

|            |               | Joist Height<br>[mm] | Max. allowable hole size with IHS (d x w) | Shear Capacity at Location of IHS [kN] |  |       |            |  |
|------------|---------------|----------------------|---|--|--|-------|------------|--|
| References | Joist<br>Type |                      |   | Permissible                            | Characteristic capacity  V <sub>k,hole</sub> (IHS Installed) |       |            |  |
|            | Туре          |                      |   | V <sub>hole</sub> (IHS Installed)      |  |       |            |  |
|            |               |                      |   | 1 ply                                  | Double Ply   | 1 ply | Double Ply |  |
| IHS240     | FJI 38        | 240                  | 145 x 250                                 | 2.83                                   | 3.30   | 6.78  | 7.91       |  |
| IHS300     | FJI 38        | 300                  | 200 x 250                                 | 3.41                                   | 3.98   | 8.18  | 9.54       |  |
| IHS350     | -             | -                    | -   | -                                      | -  | -     | -          |  |

IHS Performance: MetsaWood (FinnJoist 45mm) I-Joist

|            |        |              |  |                                   | Shear Capacity at Location of IHS                | [kN]                                |            |
|------------|--------|--------------|--|-----------------------------------|--|-------------------------------------|------------|
| References | Joist  | Joist Height | Max. allowable hole size with IHS (d x | Permissible                       | loads (Intermediate Floor Joist<br>Applications) | Characteristic capacity             |            |
|            | Туре   | [mm]         | w)                                     | V <sub>hole</sub> (IHS Installed) |  | V <sub>k,hole</sub> (IHS Installed) |            |
|            |        |              |  | 1 ply                             | Double Ply                                       | 1 ply                               | Double Ply |
| IHS240     | FJI 45 | 240          | 145 x 250                              | 2.93                              | 3.41   | 7.02                                | 8.19       |
| IHS300     | FJI 45 | 300          | 200 x 250                              | 3.53                              | 4.12   | 8.48                                | 9.89       |

#### IHS

## **I-Joist Hole Support**



IHS Performance: MetsaWood (FinnJoist 53mm) I-Joist

|            |        |              |  |                                   | Shear Capacity at Location of IHS                            | [kN]  |            |
|------------|--------|--------------|--|-----------------------------------|--|-------|------------|
| References | Joist  | Joist Height | Max. allowable hole size with IHS (d x | Permissible                       | Characteristic capacity  V <sub>k,hole</sub> (IHS Installed) |       |            |
|            | Type   | [mm]         | w)                                     | V <sub>hole</sub> (IHS Installed) |  |       |            |
|            |        |              |  | 1 ply                             | Double Ply   | 1 ply | Double Ply |
| IHS240     | FJI 58 | 240          | 145 x 250                              | 3.12                              | 3.64   | 7.48  | 8.73       |
| IHS300     | FJI 58 | 300          | 200 x 250                              | 3.76                              | 4.39   | 9.09  | 10.54      |

IHS Performance: MetsaWood (FinnJoist 69mm) I-Joist

|            |                | Joist Height | Max. allowable hole size with IHS (d x | Shear Capacity at Location of IHS [kN] |       |                         |               |  |
|------------|----------------|--------------|--|--|-------|-------------------------|---------------|--|
| References | Joist          |              |  | Permissible loads (Int<br>Applica      |       | Characteristic capacity |               |  |
|            | S Type [mm] w) |              | V <sub>hole</sub> (IHS                 | V <sub>hole</sub> (IHS Installed)      |       |                         |               |  |
|            |                |              |  | 1 ply                                  | 1 ply | Double<br>Ply           | Double<br>Ply |  |
| IHS240     | FJI 70         | 240          | 145 x 250                              | 3.22                                   | 3.76  | 7.73                    | 9.02          |  |
| IHS300     | FJI 70         | 300          | 200 x 250                              | 3.89                                   | 4.53  | 9.32                    | 10.88         |  |

IHS Performance: MetsaWood (FinnJoist 96mm) I-Joist

|            |        |        |  | Shear Capacity at Location of IHS [kN] |                         |                                     |            |  |
|------------|--------|--------|--|--|-------------------------|-------------------------------------|------------|--|
| References | Joist  | Joist  | Max. allowable hole size with IHS (d x | Permissible                            | Characteristic capacity |                                     |            |  |
|            | Type   | Height | ( w)                                   | V <sub>hole</sub> (IHS Installed)      |                         | V <sub>k,hole</sub> (IHS Installed) |            |  |
|            |        |        |  | 1 ply                                  | Double Ply              | 1 ply                               | Double Ply |  |
| IHS240     | FJI 89 | 240    | 145 x 250                              | 3.22                                   | 3.76                    | 7.73                                | 9.02       |  |
| IHS300     | FJI 89 | 300    | 200 x 250                              | 3.89                                   | 4.53                    | 9.32                                | 10.88      |  |

IHS Performance: Steico (SJL 45mm) I-Joist

|            |                            |         |  | Shear Capacity at Location of IHS [kN] |                         |                                     |            |  |
|------------|----------------------------|---------|--|--|-------------------------|-------------------------------------|------------|--|
| References | Joist Joist<br>Type Height |         | Max. allowable hole size with IHS (d x | Permissible                            | Characteristic capacity |                                     |            |  |
|            | туре                       | пеідііі | W)                                     | V <sub>hole</sub> (IHS Installed)      |                         | V <sub>k,hole</sub> (IHS Installed) |            |  |
|            |                            |         |  | 1 ply                                  | Double Ply              | 1 ply                               | Double Ply |  |
| IHS240     | SJL 45                     | 240     | 150 x 250                              | 1.62                                   | 2.27                    | 6.38                                | 8.93       |  |
| IHS300     | SJL 45                     | 300     | 200 x 250                              | 1.95                                   | 2.73                    | 7.68                                | 10.75      |  |

IHS Performance: Steico (SJL 60mm) I-Joist

|            |        |      |  |                                   | Shear Capacity at Location of IHS | [kN]                                |            |
|------------|--------|------|--|-----------------------------------|-----------------------------------|-------------------------------------|------------|
| References |        |      | Max. allowable hole size with IHS (d x | Permissible                       | Characteristic capacity           |                                     |            |
|            | Туре   | [mm] | w)                                     | V <sub>hole</sub> (IHS Installed) |                                   | V <sub>k,hole</sub> (IHS Installed) |            |
|            |        |      |  | 1 ply                             | Double Ply                        | 1 ply                               | Double Ply |
| IHS240     | SJL 60 | 240  | 150 x 250                              | 1.60                              | 2.25                              | 6.32                                | 8.85       |
| IHS300     | SJL 60 | 300  | 200 x 250                              | 1.93                              | 2.70                              | 7.59                                | 10.62      |

IHS

## I-Joist Hole Support



IHS Performance: Steico (SJL 90mm) I-Joist

|            |        |              | Max. allowable hole size with IHS (d x | Shear Capacity at Location of IHS [kN] |  |                                     |            |  |
|------------|--------|--------------|--|--|--|-------------------------------------|------------|--|
| References | Joist  | Joist Height |  | Permissible                            | loads (Intermediate Floor Joist<br>Applications) | Characteristic capacity             |            |  |
|            | Type   | [mm]         | w)                                     | V <sub>hole</sub> (IHS Installed)      |  | V <sub>k,hole</sub> (IHS Installed) |            |  |
|            |        |              |  | 1 ply                                  | Double Ply                                       | 1 ply                               | Double Ply |  |
| IHS240     | SJL 90 | 240          | 150 x 250                              | 1.59                                   | 2.22   | 6.26                                | 8.76       |  |
| IHS300     | SJL 90 | 300          | 200 x 250                              | 1.90                                   | 2.66   | 7.49                                | 10.48      |  |
| IHS350     | -      | -            | -                                      | -                                      | -  | -                                   | -          |  |

#### IHS

#### **I-Joist Hole Support**

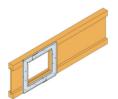


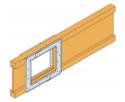
#### Installation

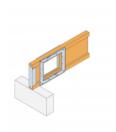
#### Installation

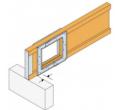
- Each IHS consists of 2 sets of 2 interlocking plates with one set required for each side of the I-joist.
- The outer edge of the holes cut into the web of the I-joist can be a minimum of 50mm from the inner face
  of the blockwork.
- Holes can be cut into the web of the I-joist before or after installation of the IHS.
- Holes must fit within the internal aperture of the IHS.
- Place the IHS onto the I-joist so that the top and bottom sliding flanges are aligned vertically central onto the top and bottom chords of the I-joist.
- Open or close the IHS to the required width, ensuring that the two sections overlap by at least one row of nails (minimum overlap of 45mm).
- Install 3.75x30mm square twist nails through all round holes into the top and bottom chords of the I-joist.
- Repeat the above steps to install plates on the other side of the I-joist, completing the installation.

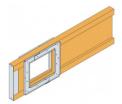


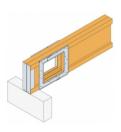












IHS
I-Joist Hole Support



