

Concrete  
Forming Systems

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Precast Concrete  
Products

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Reinforcing  
Bar Supports

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Concrete  
Anchoring Systems

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Rock Anchoring  
and Bolt Systems



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THE HIDDEN STRENGTH™

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
































LA FORCE CACHÉE

# BRIDGE DECK FORMING & HANGING SYSTEMS













INTERIOR HANGERS  
EXTERIOR HANGERS  
BRACKETS  
WORKING PARTS



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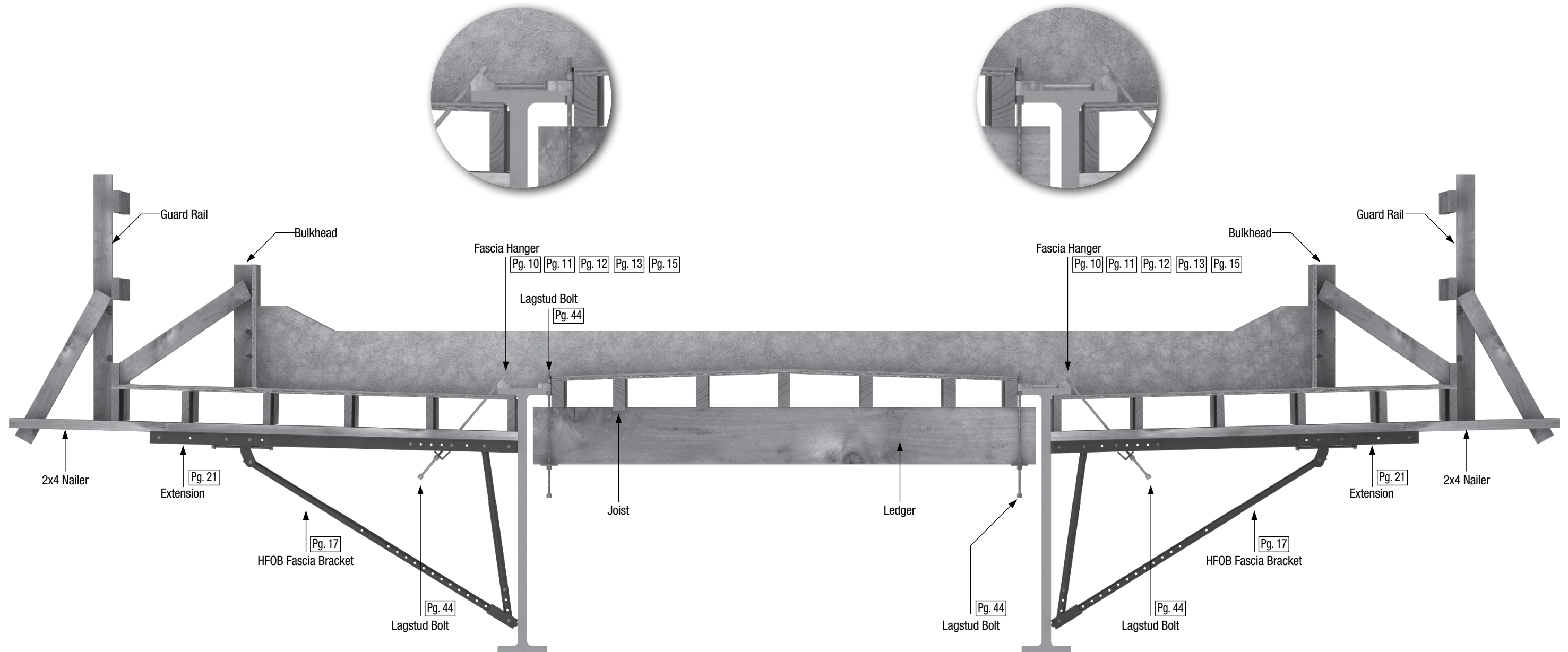
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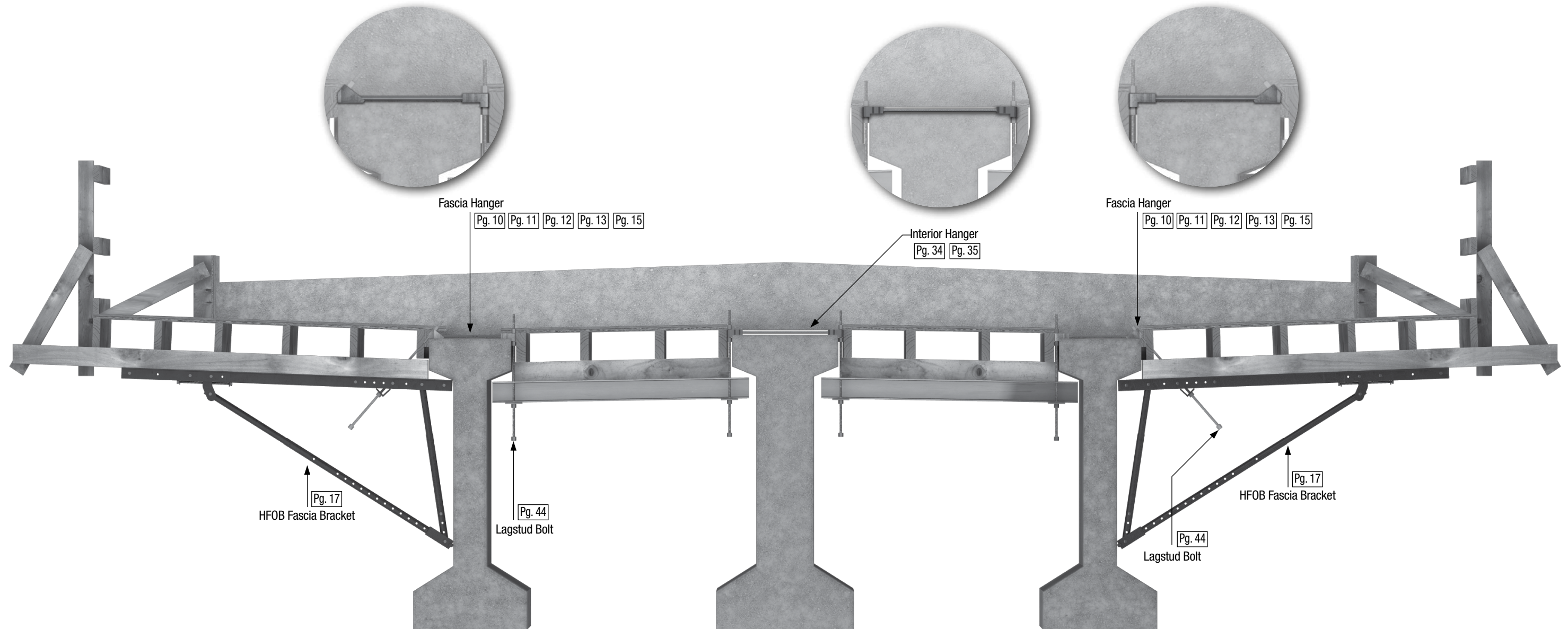
## Steel Girder

## Bridge Cross Section

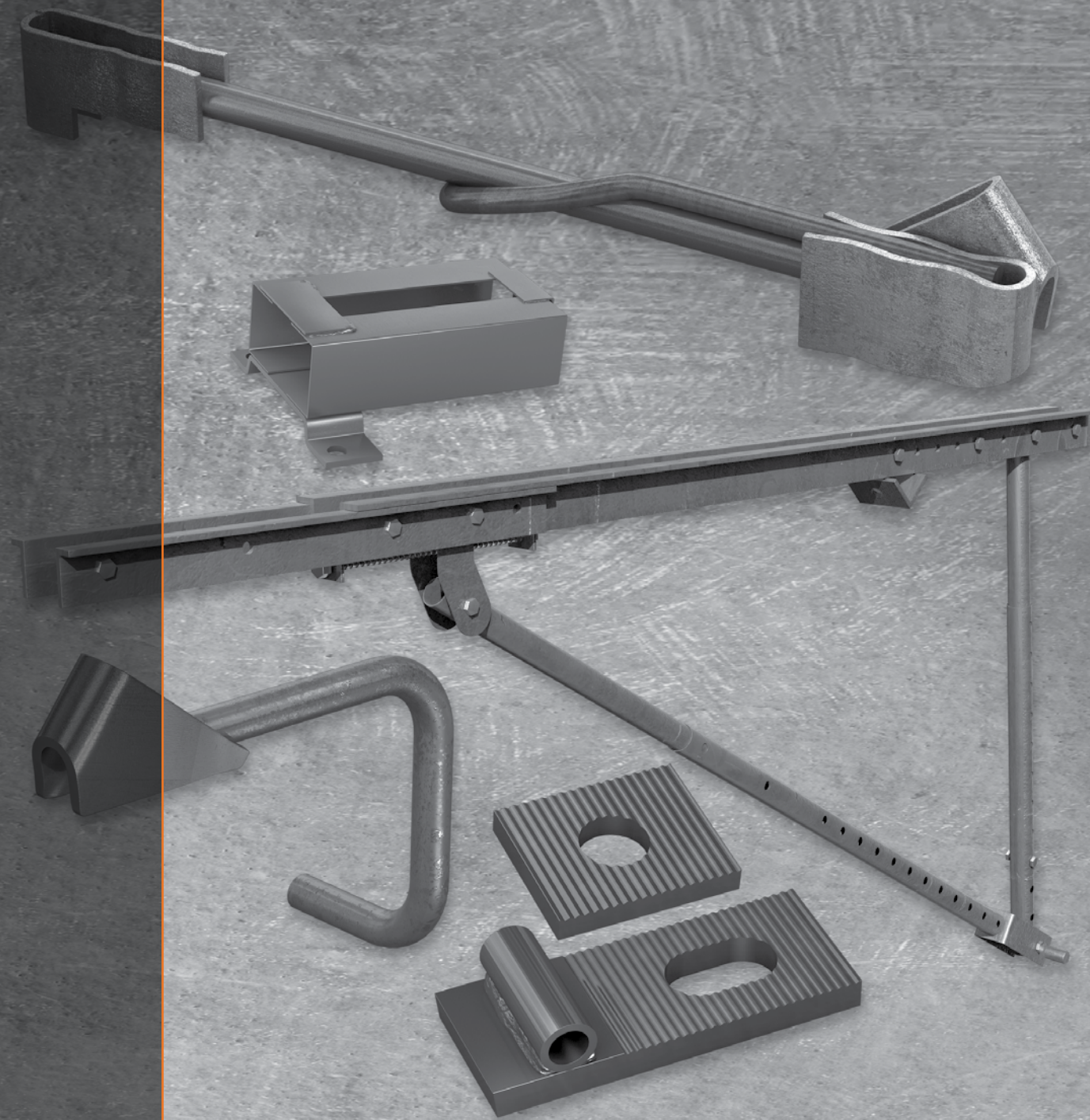
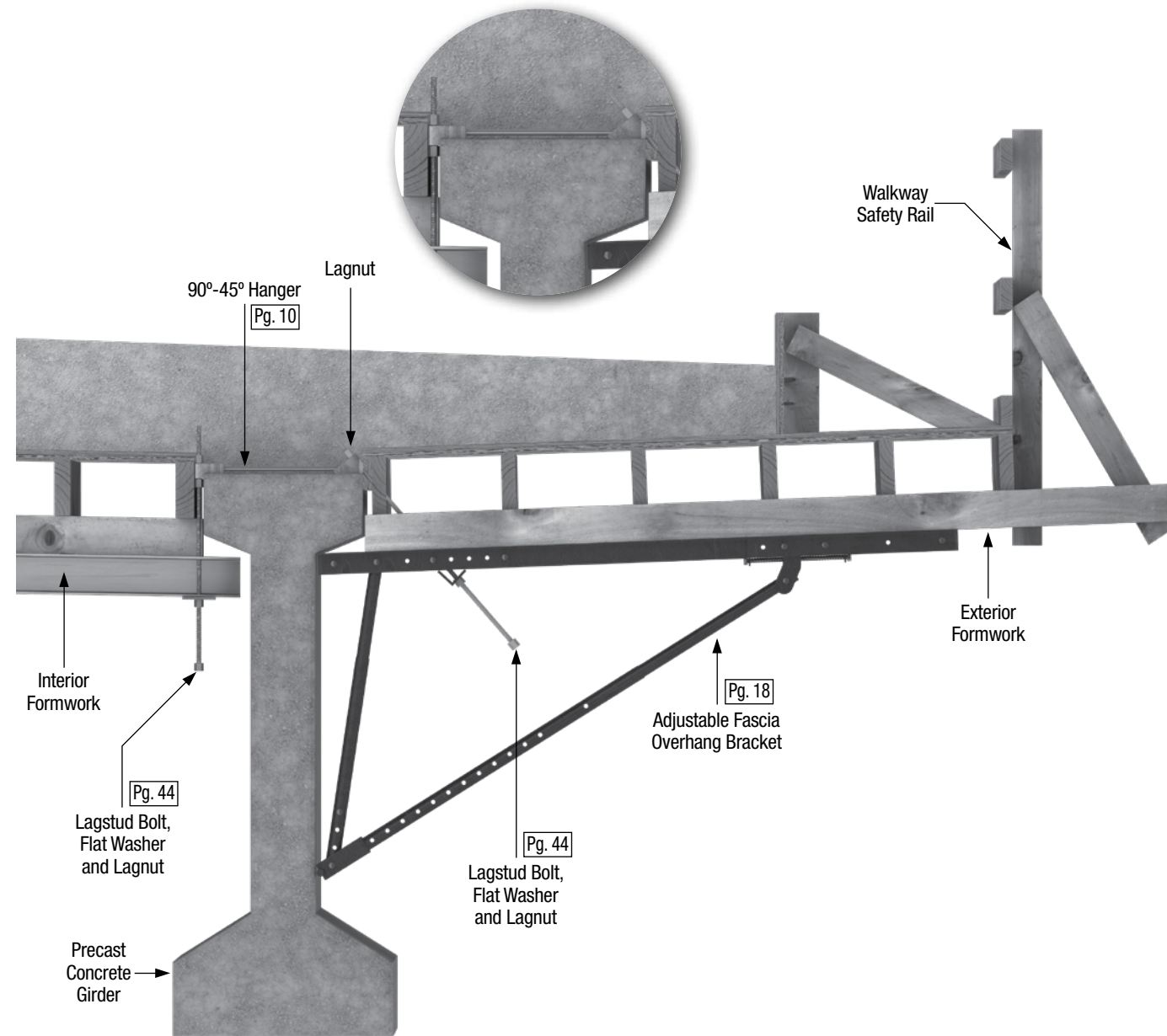


## Concrete Girder

## Bridge Cross Section



## Fascia Overhang



# EXTERIOR FORM

## Heavy Ty-Back 90° - 45° Angle Hanger (HTBH-A)

Heavy Ty-Back (HTBH-A) hangers are used to support exterior formwork on bridge decks. HTBH-A hangers are specially designed to react lateral forces prevalent in fascia overhang formwork. The HTBH-A hanger is fabricated to use 13mm or 20mm (1/2" or 3/4") fasteners which is based on load capacity. Typically 45° end clips are welded to one end of the hanger and 90° ty-back end clip to the other end. For improved stability of the overhang formwork, a 90° SUPPLEMENTAL HANGER which allows a 13mm (1/2") vertical tie (SWL1000 lb) to be added to the main hanger next to the 45° end clip on request.

### Safe Working Load

6M	1/2" HTBH-A	26.7 kN (6,000 lb)
10M	3/4" HTBH-A	45.0 kN (10,000 lb)
12M	3/4" HTBH-A	53.0 kN (12,000 lb)
18M	3/4" EHTBH Double	80.0 kN (18,000 lb)

All Supplemental Hangers Rated 4.5kN (1000 lb)  
Per side @ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350 (14")	HTBH-A	HDG
Example	200	350 (14")	HTBH-AS	HDG
Example	200	350 (14")	3/4"HTBH-A	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
Consult with AR Technical Department for Hanger Length Less than 175mm (7")

**NB.** When hangers are used on concrete beams, the safe working load shown is based on a minimum concrete flange thickness of 5" and beams made with normal weight concrete having reached a minimum compressive strength of 5,000 psi. For hangers used on concrete beams with conditions not meeting these requirements please contact AR Technical Department. AR recommends the use of bearing plates under hanger end clips for hanger loads greater than 26kN (6000 lb) when used on concrete girders or supports. Please consult with AR Technical Department for custom made hangers with loads other than that listed in this catalog.

## TYPE #1 - 90° - 45° Angle Hanger (HFR-A)

Angle Hanger HFR-A is manufactured with a 13mm (1/2") dia. 45° end clip and 13mm (1/2") dia. 90° end clip welded at each end of the wire strut and is used to support fascia overhang formwork.

### Safe Working Load

17.0 kN (3,800 lb)

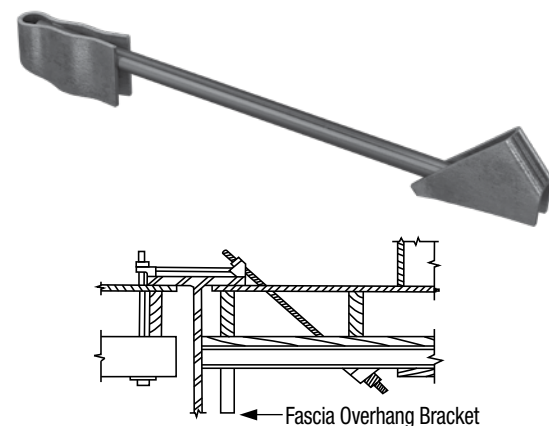
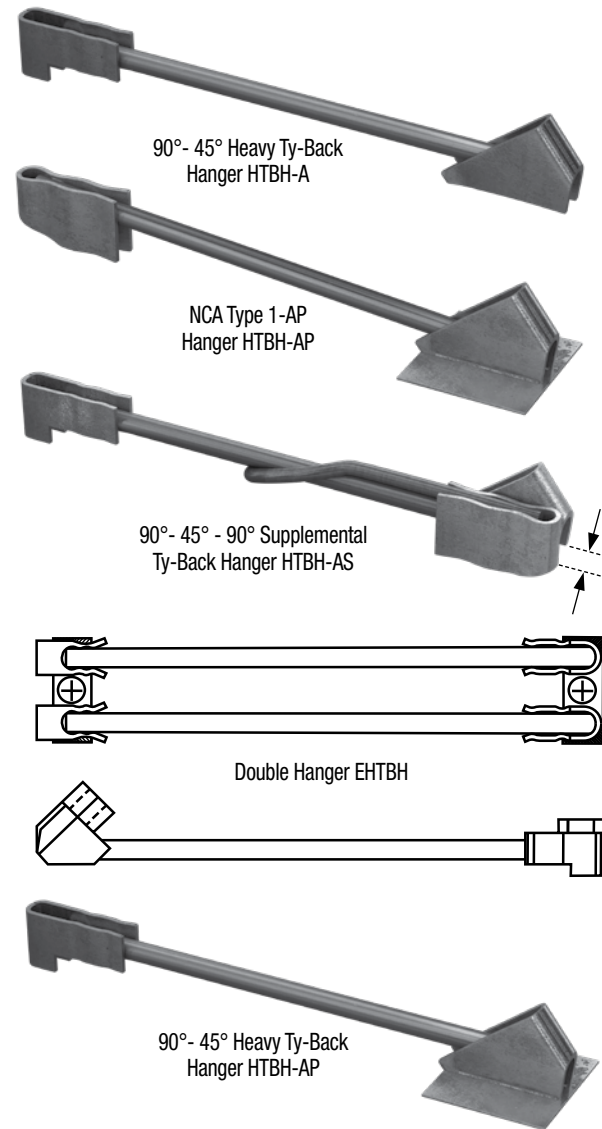
Per side @ Approximate 2:1 Safety Factor

WARNING: Lateral forces must be properly reacted in order to prevent hanger movement.

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350 (14")	HFR-A	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)



## Heavy Ty-Back Inverted 90° - 45° (Inv 90-HTBH-A)

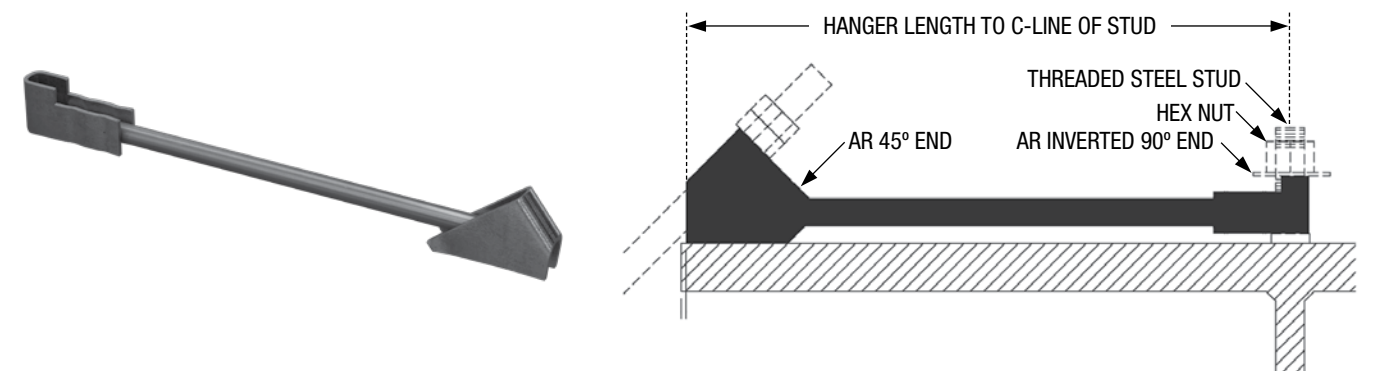
This hanger is useful for projects where bridge brackets for formwork is to be installed for forming the bridge cantilever overhang only. These hangers can be used on steel or concrete girders where adequate reaction can be provided by a 3/4" diameter high strength stud. Bearing plates are recommended for concrete girders with flange thicknesses less than 5" and also for hanger > 6000 lb capacity. Hanger > 204mm length is also available with 90" supplement.

### INFORMATION REQUIRED TO ORDER

HANGER TYPE	SAFE WORKING LOAD	MINIMUM LENGTH	45° BOLT DIMENSION	FOR USE ON
6M inv90-HTBH-A	26 kN (6,000) lb	152mm (6")	13 mm (1/2")	STEEL / CONCRETE
10M inv90-HTBH-A	44 kN (10,000) lb	204 mm (8")	19 mm (3/4")	STEEL / CONCRETE
12M inv90-HTBH-A	53 kN (12,000) lb	204 mm (8")	19 mm (3/4")	STEEL GIRDERS

Please consult with AR technical department for details on AR high capacity 18,000 lb SWL Hangers

Note: The safe working load (SWL) shown here are based on hanger tests where the hanger has been adequately restrained by a 3/4" high strength stud. The actual safe working load of the hanger is totally dependent on the size and strength of the stud that will be used to provide the hanger reaction at the inverted 90 degree end. As such the hanger installed capacity may be less if it is not adequately restrained. Please consult with AR technical department for guidance on use of this product.



## Type #2 & #3 - 90° - 45° Haunch Angle Hanger (HRH-A) - 25mm (1") / (HRH-A) - 38mm (1-1/2")

Haunch Angle Hanger HRH-A is used to form fascia overhangs on projects having a 1" (25mm) or 38mm (1-1/2") haunch condition. The hanger is fabricated with a 13mm (1/2") dia. 90° HRH-A end clip and a 13mm (1/2") dia. 45° HFR end clip.

Haunch relief heights: Type #2 HRH-A is 25 mm (1").  
Type #3 HRH-A is 38 mm (1-1/2").

### Safe Working Load

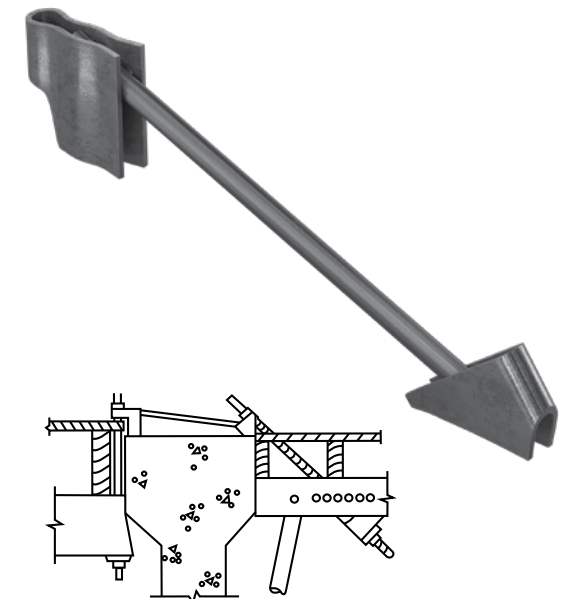
13.4 kN (3,000 lb)

Per side @ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	TYPE	COATING
Example	200	350 (14")	HRH-A	#3	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
WARNING: Lateral forces must be properly reacted in order to prevent hanger movement.



## 45° Precast Angle Hanger (PHFR-HA) & (PHHFR-HA)

Precast Angle Half Hanger PHFR-HA/PHHFR-HA is designed to be cast into the top of a concrete girder and subsequently support the fascia overhang formwork. Available with a 13 mm (1/2") dia. 45° end clip Standard (PHFR-HA) and Heavy (PHHFR-HA) configurations.

### Safe Working Load

4.5M	Standard	20.1 kN (4,500 lb)
6M	1/2" Heavy Duty	26.7 kN (6,000 lb)
10M	3/4" Heavy Duty	45.0 kN (10,000 lb)

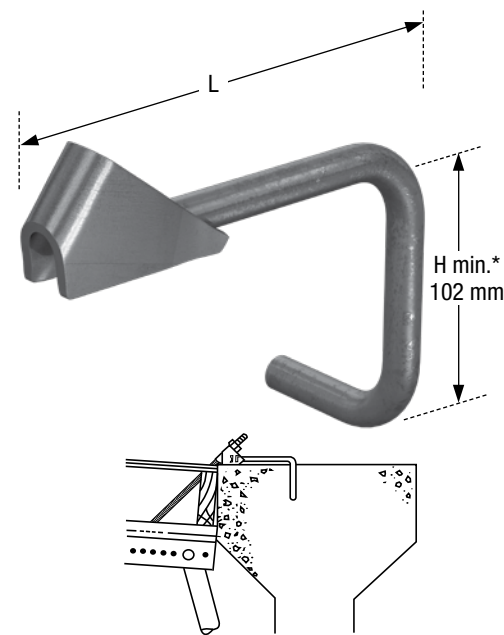
Per side @ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	PRODUCT NAME	COATING
Example	200	PHFR-HA STD	HDG

Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
NB. Precast Hangers can be Made to Custom Lengths Upon Request.



\*Embedment height measured from bottom of horizontal strut wire to bottom of hook wire, as illustrated on the image above.

## HK 45° Ty-Down Hanger (HHFR-HKA)

Heavy Hanger HHFR-HKA is manufactured with a 13 mm (1/2") diameter 45° end clip welded to one end of the hanger's strut. This hanger is also available in 20 mm (3/4") system fabricated with ends to accommodate 20 mm (3/4") rods, for higher loads. The other end of the strut has a reinforced, 180° wraparound configuration. The wraparound end is fabricated to slip over the flange of a steel bridge beam. Also available for hanger loads using 20 mm (3/4") ends.

### Safe Working Load

3.8M	1/2" System	17.0 kN (3,800 lb)
6M	1/2" System	26.7 kN (6,000 lb)
10M	3/4" System	45.0 kN (10,000 lb)

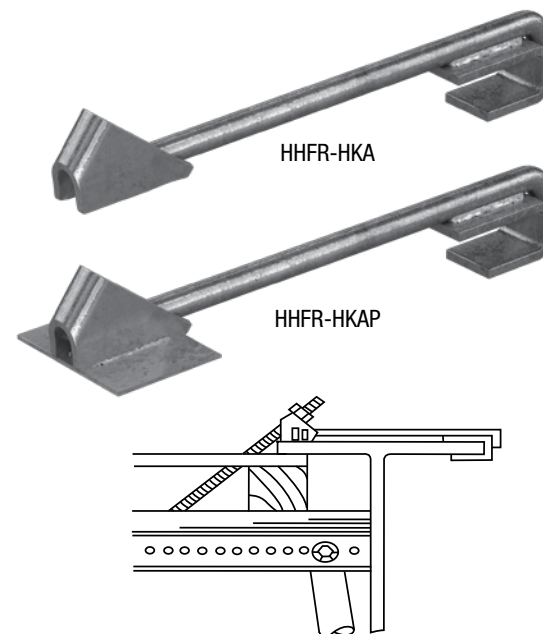
Per side @ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	GIRDER FLANGE THICKNESS	PRODUCT NAME	COATING
Example	200	350 mm (14")	25 mm (1")	HHFR-HKA	HDG
Example	200	350 mm (14")	32 mm (1 1/4")	3/4" HHFR-HKAP	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)



WARNING: Hook hanger are designed and fabricated to slip around the girder flange.

The use of force / hammering to fit hanger to the girder flange is not permitted and may compromise the integrity of the hanger. If force is required to fit the hanger clips to the girder flange then the hanger clips are incorrect and should be replaced.

## Type #1 - 45° Half Hanger (HFR-HA) and (HFR-HWA)

Half Hanger HFR-HA is fabricated with a 13 mm (1/2") dia. 45° HFR end clip and is available in two styles. The 45° HFR-HA Angle Half Hanger is welded to the beam hanger and supports the fascia formwork. The 45° Half Hanger HFR-HA style has a shaped strut to facilitate welding the top surface of a steel fascia beam. Half Hanger HFR-HWA style has a straight strut and is normally welded to the stirrups of a concrete beam.

### Safe Working Load

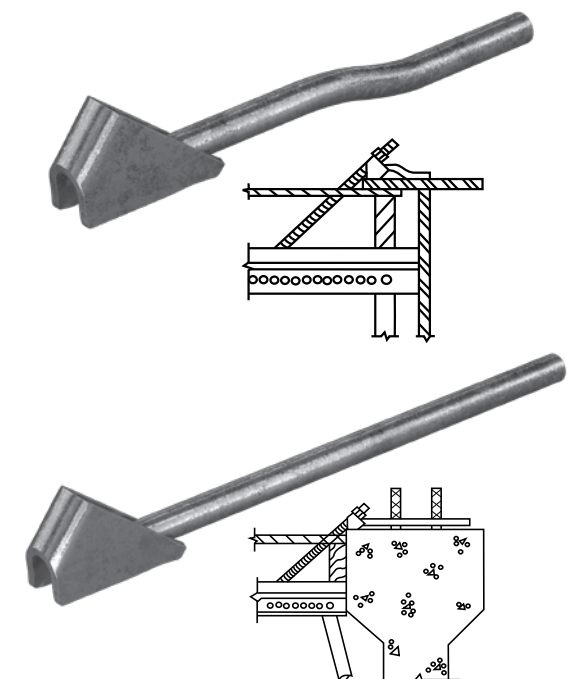
3.8M	17.0 kN (3,800 lb)
6M	26.6 kN (6,000 lb)

@ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HFR-HA	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
CAUTION: Care should be exercised when welding any hanger. See related note in the General Information section.  
NB. All welding to be performed by qualified personnel.



## Type #1 - 45° Adjustable Half Hanger (HFR-HAJ-A)

Adjustable Half Hanger HFR-HAJ-A is designed to support the fascia overhang formwork on projects where welding is not permitted. The hanger consists of a 13 mm (1/2") dia. 45° end clip welded to a length of 13 mm (1/2") Lag threaded rod. One or two stirrup clips are positioned on the threaded rod and are retained by two lagnuts each. Standard unit is 230 mm (9") long overall with one stirrup clip. Minimum overall length is 6" (150 mm).

### Safe Working Load

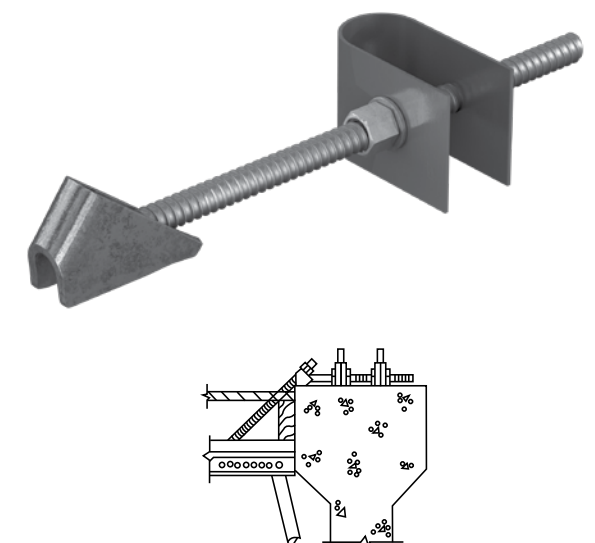
1.1M	1 Clip	4.9 kN (1,100 lb)
3M	2 Clip	13.4 kN (3,000 lb)

@ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	LENGTH	PRODUCT NAME	CLIP	COATING
Example	200	350 mm (14")	HFR-HAJ-A	1	EP
Example	100	406 mm (16")	HHFR-HAJ-HA	1	EP

\*Available in Plain Steel (B), Electro Plated (EP)



## 6M Adjustable Half Hanger (HHFR-HAJ-A)

6M Adjustable Half Hanger HHFR-HAJ-A is recommended for the support of bridge brackets for exterior overhang formwork where formwork is required on one side of the girder only. The reaction for this hanger is provided through two movable plates (on the hanger double struts) which are locked against the girder Nelson Studs or the Girder 15M rebar stirrups by four running nuts on the hanger threaded struts (2 nuts per strut) as shown.

### Safe Working Load

6M 26.6 kN (6,000 lb)

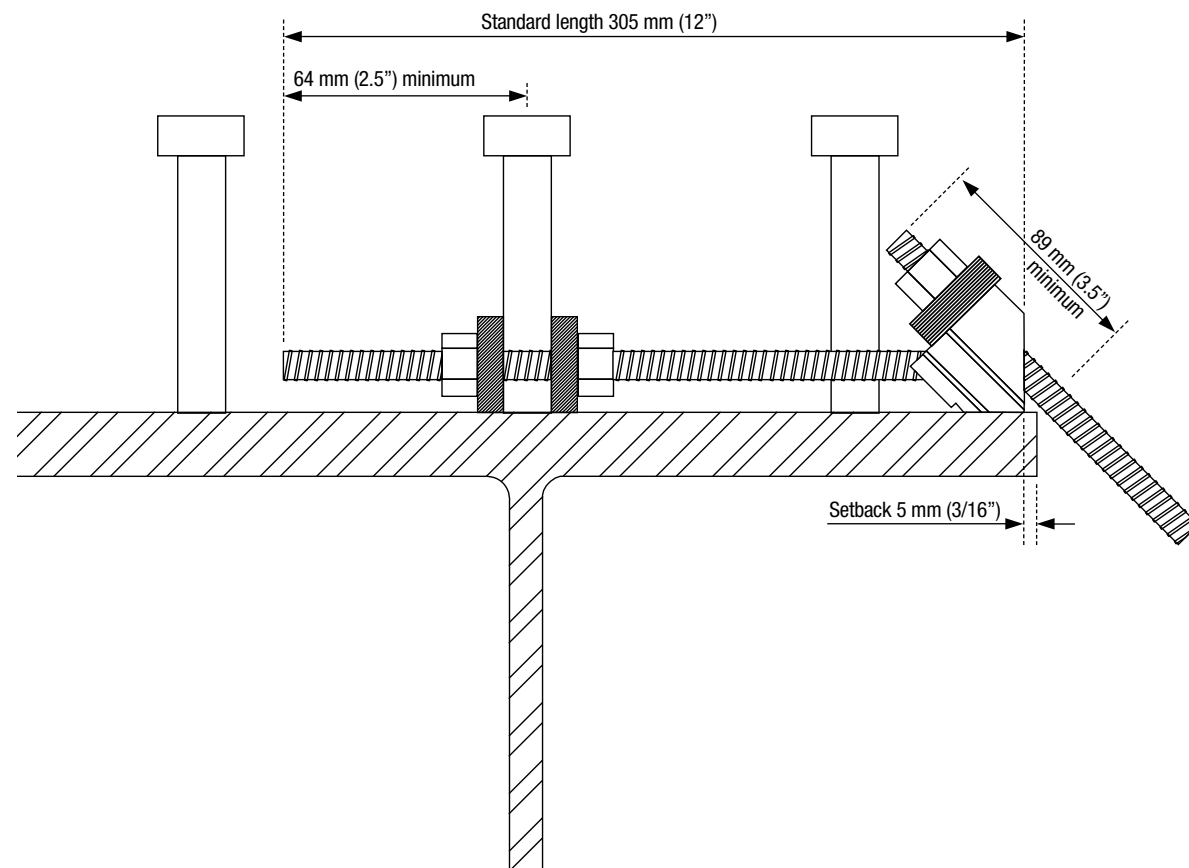
@ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	LENGTH	PRODUCT NAME	BEARING PLATE	COATING
Example	100	406 mm (16")	HHFR-HAJ-HA	-	EP

\*Available in Plain Steel (B) or Electro Plated (EP)

\*Steel Bearing plate is recommended under the 45° endclip for thin flanged concrete girders. Equivalent to DS-C25 (45° Heavy Duty Adjustable Half Hanger)



## Heavy 6M - 15° - 45° Hanger (HHFRL-A)

Heavy 15° - 45° Hangers HHFRL-A are designed to have bolts at 15° in order to support formwork where the 90° hangers provide support too close to the end of the ledgers. Heavy Angle Hanger HHFRL-A is fabricated with a 13mm (1/2") dia. 15° HHFRL - A end clip welded to one end of the strut and 13mm (1/2") dia. 45° end clip welded to the other end. Supplemental Ty-back HHFRL-AS is fabricated similar to the HHFRL-A hanger but has an additional 13mm (1/2") dia. 90° end clip which allows a vertical tie for improved stability.

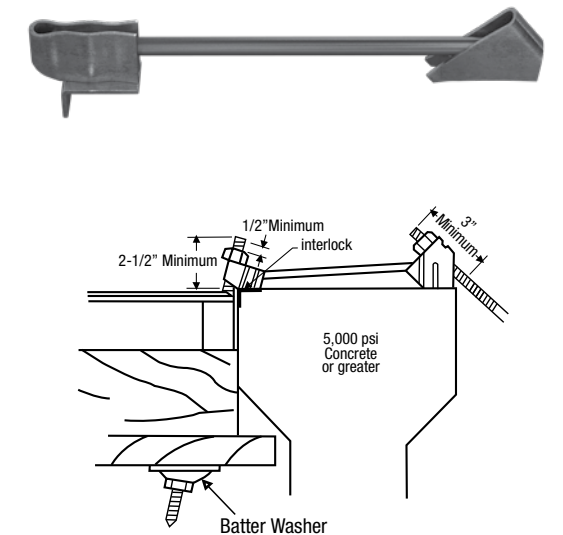
### SAFE WORKING LOAD TO BE DETERMINED BY APPLICATION

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HHFRL-A	HDG
Example	200	350mm (14")	HHFRL-AS	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)



## Type #1 - 15° - 45° Angle Hanger (HFRL-A)

15° - 45° Hanger HFRL-A is manufactured with a 13mm (1/2") dia. 15° HFLR end clip and 13mm (1/2") dia. 45° end clip welded at each end of the wire strut and is used to support fascia overhang formwork.

### Safe Working Load

17.0 kN (3,800 lb)

Per side @ Approximate 2:1 Safety Factor

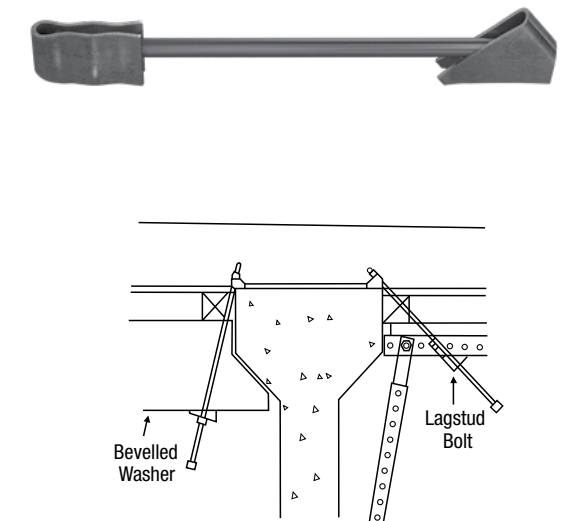
For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HHFRL-A	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

WARNING: Lateral forces must be properly reacted in order to prevent hanger movement.

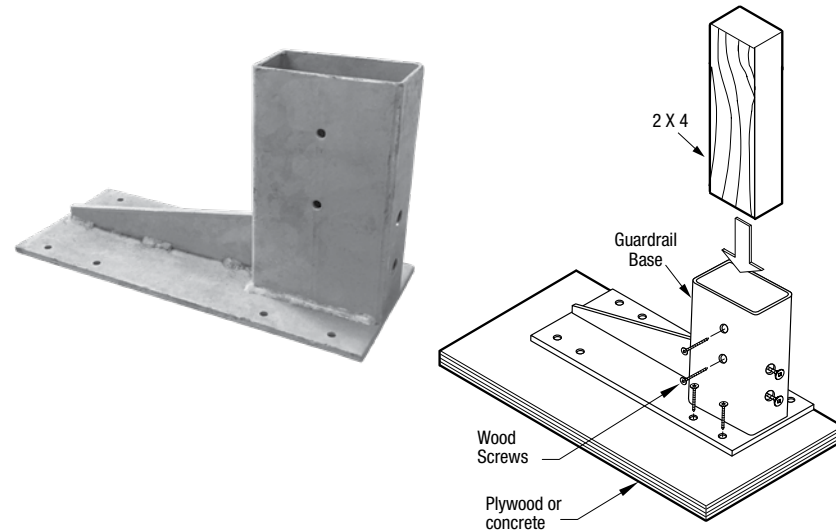




## Guardrail Base

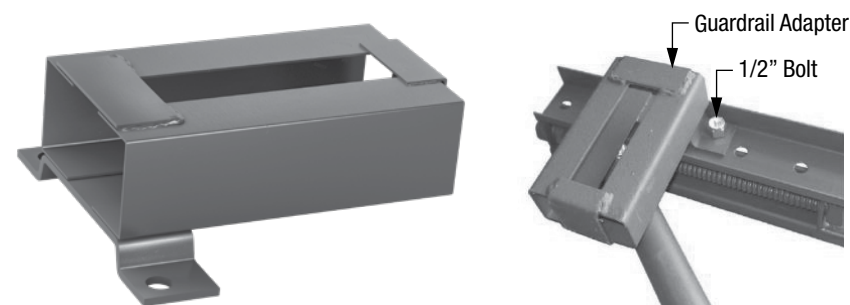
The single component AR Guardrail Base provides set back requirements. The solid galvanized steel construction is significantly stronger than typical wood fabrications and adds safety and reliability. The Guardrail Base is reusable and fast and simple to install on plywood or concrete surfaces.

Meets Load Requirements of Section 26.3 of the Ontario Health and Safety Act and Regulations for Construction Projects (ISBN 0 -7778-9412-2 Rev 06/00), when assembled with other components to form guardrail system complying with the Act.



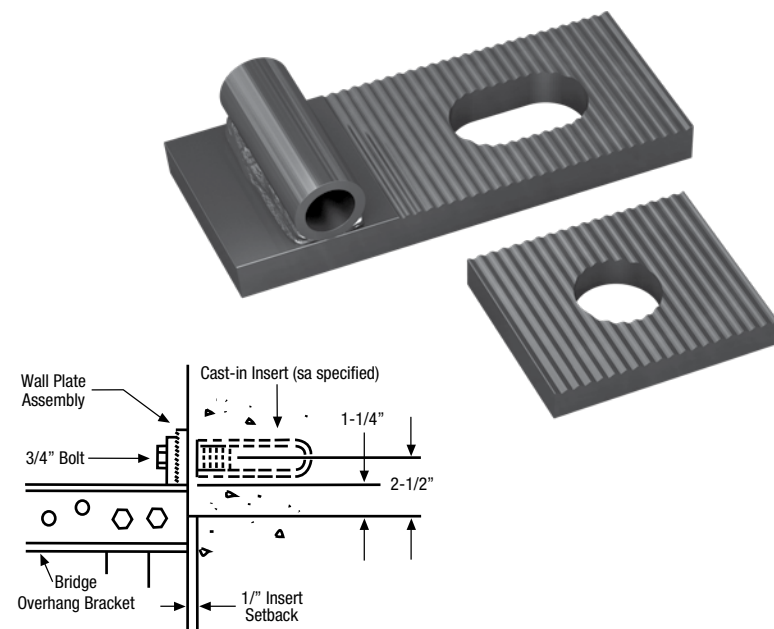
## Guardrail Adapter

The Guard Rail Adapter allows to easy installation of a 2X4" lumber guard rail post on the exterior formwork of a bridge deck. Two 1/2" x 3-1/2" NC THD Grade 5 bolts and nuts are used to attach the rail adapter to the horizontal channels of fascia bridge bracket or extension.



## BOB Wall Plate

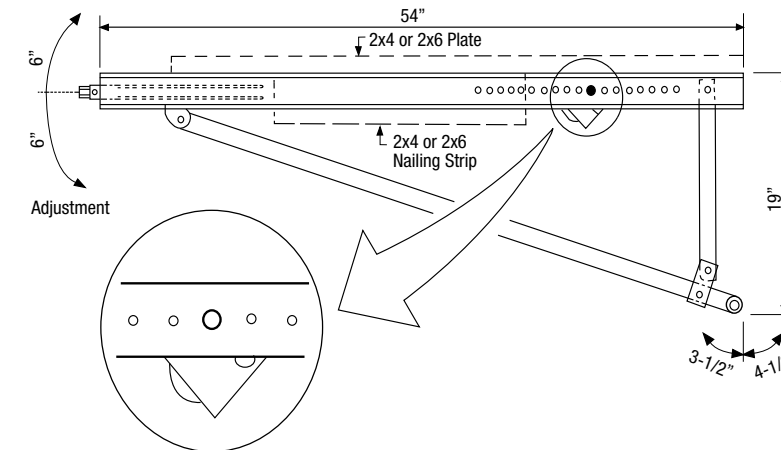
The Wall Plate Assembly is an optional device that allows direct attachment of either HFOB-ST, HFOB-ADJ or HFOB-ADJ DEEP Bridge Overhang Bracket to an insert that has been cast into a precast concrete bridge beam. The BOB Assembly has two pieces, the Wall Plate and the Washer. Both pieces are manufactured with machined threads on their face to limit vertical adjustment of the bracket. To attach the Wall Plate to a bridge bracket, remove the rear 13mm (1/2") Hex bolt, nut and spacer pipe from the horizontal channels of the bracket and replace with BOB Wall Plate. Reuse the 13mm (1/2") Hex Bolt and nut to complete the installation of the wall plate to the bracket.



## Standard Fascia Overhang Bracket (HFOB-STD)

Standard Fascia Overhang Bracket HFOB-STD is a light weight, heavy duty bracket used to form bridge deck overhangs. The bracket can be mounted to steel or concrete girders using the appropriate hanger device. Brackets are easily and quickly preset on the ground. Bracket deflection at maximum load will be approximately 6mm (1/4") at the exterior end of the bracket. Standard bracket is fabricated with fixed length vertical and diagonal legs and an overall height of 483mm (19"). Precise and uninterrupted grade adjustment of 304mm (12") above and 304mm (12") below horizontal is easily accomplished. The bracket receiver fitting accommodates 13mm (1/2") hanger systems. Standard Bracket can support load combinations, on the diagonal member.

Recommended Bracket Spacing see pages 21 or Consult AR's Technical Department.

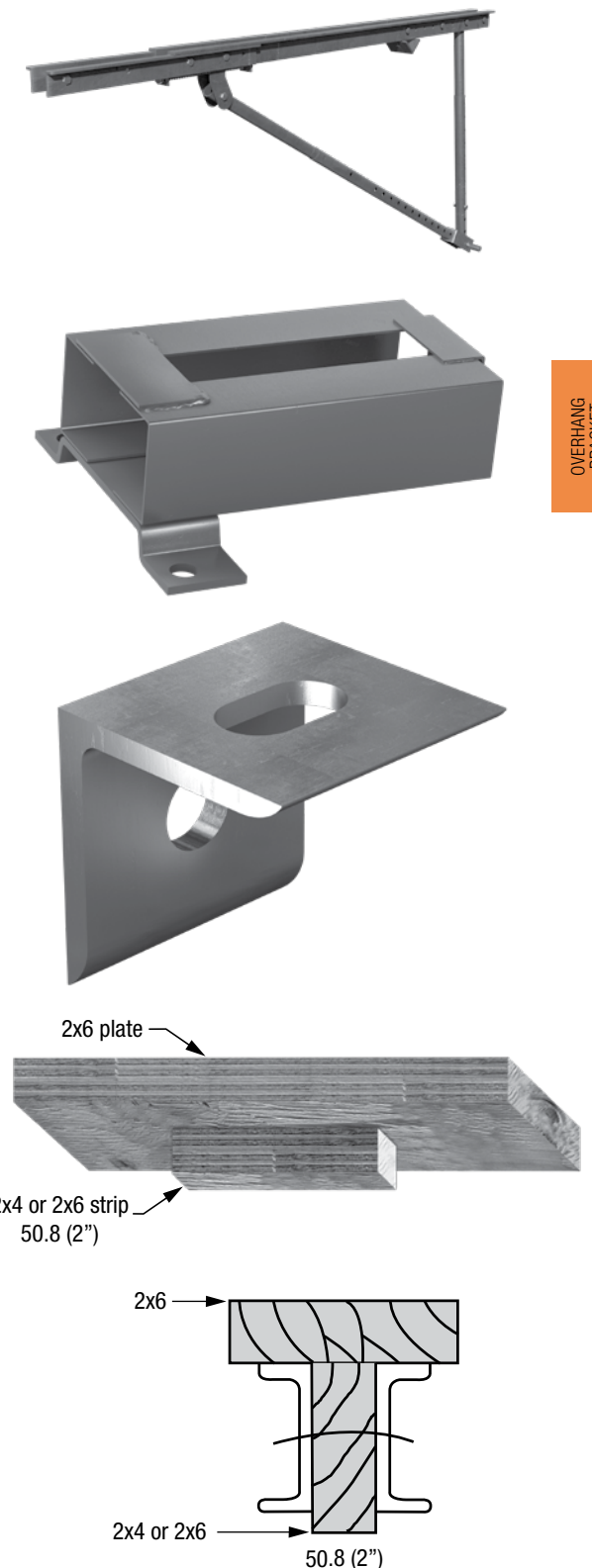


### BRACKET ACCESSORIES

- Supplemental Support Angle
- Fascia Overhang Bracket Extension
- Guard Rail Adapter Kit are available for the Standard Bracket

**WARNING:** Fascia Overhang Brackets should be adjusted to proper grade during normal "dry run" operations. Never attempt an upward adjustment during concrete pouring operation. It is, however, permissible to lower the bracket grade adjustment.

**NB.** Nailing Plate assembly Supplied (fabricated) by user, is recommended at all times on all AR's Overhang Brackets.



OVERHANG BRACKET

## Adjustable Fascia Overhang Bracket (HFOB-ADJ)

Adjustable Fascia Overhang Bracket HFOB-ADJ is similar in description to the Standard bracket shown on page 14. Major distinguishing features are the adjustable vertical and diagonal legs. The vertical leg has an adjustment range of 558mm (22") in 51mm (2") increments. Single 13mm (1/2") bolt in each leg makes adjustments easy to accomplish. The adjustable bracket also features a grade adjustment mechanism that allows 305mm (12") of adjustment at the outboard end of the bracket. The grade adjustment coupled to the adjustability of the vertical and diagonal members allows the bracket to satisfy overhang requirements of most precast and/or steel bridge beam applications.

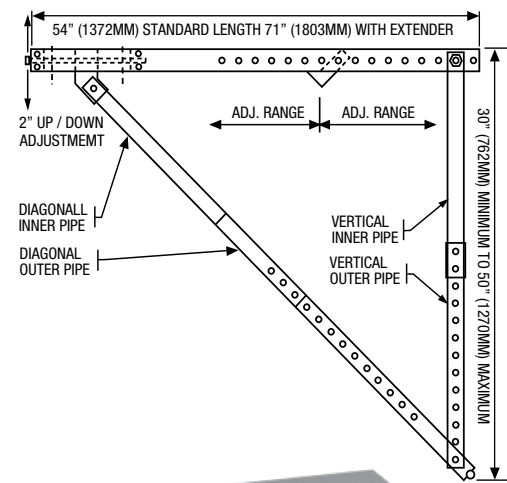
### Safe Working Load

17.0 kN (3,800 lbs)

@ Approximate 2:1 Safety Factor

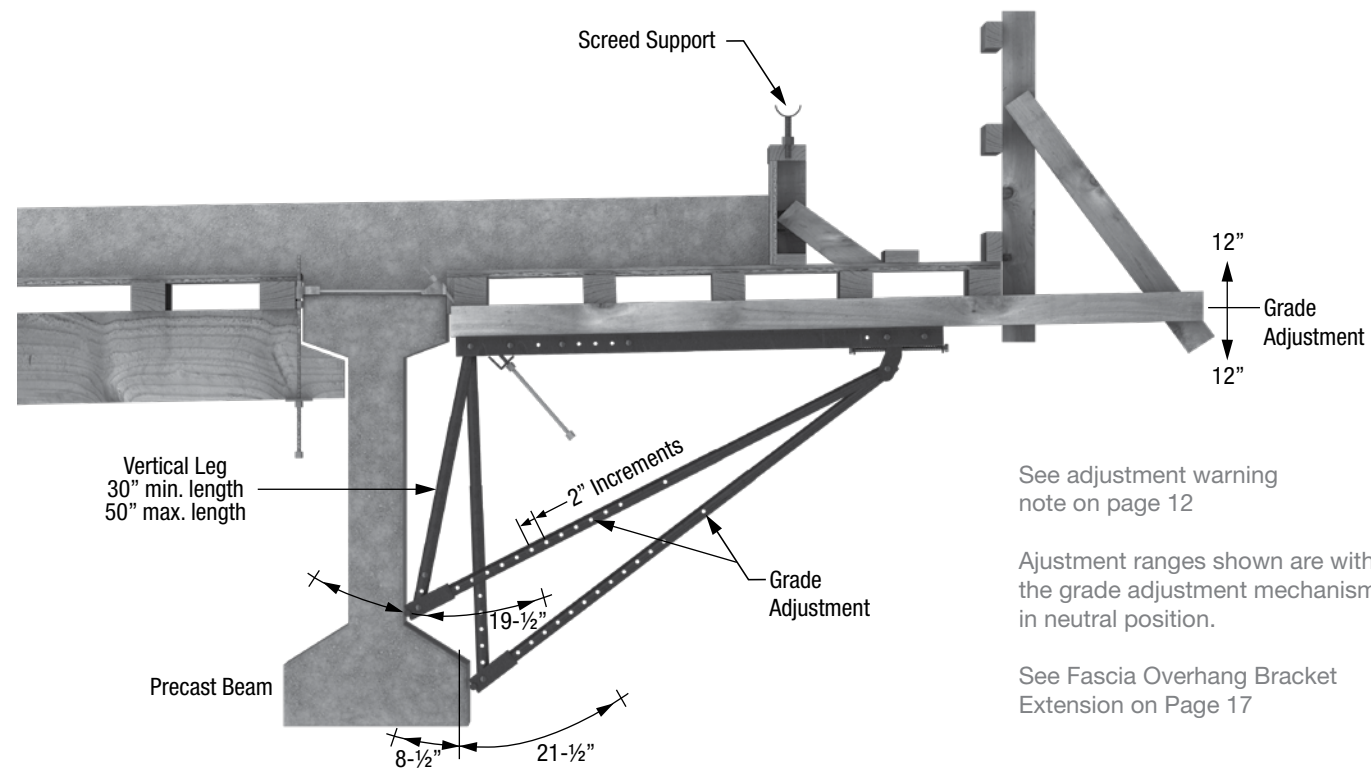
SECTION PROPERTIES	CHANNELS (HORIZONTAL)	LEGS (INTER & OUTER)
Yield Strength (min) ksi (MPa)	50 (345)	50 (345)
Tensile Strength (min) ksi (MPa)	65 (450)	65 (450)
Total Section Modulus in <sup>3</sup> (mm <sup>3</sup> )	0.536 (8786)	
Moment of Inertia in <sup>4</sup> (mm <sup>4</sup> )	0.784 (326,445)	

Recommended Bracket Spacing see pages 24-26 or Consult AR's Technical Department. Bracket accessories, such as Guard rail Adapter and Extension are available for the Adjustable Fascia Overhang Bracket. Contact your local AR Representative for additional information.



2x4 Guardrail Adapter

## Typical Adjustable Fascia Overhang Bracket Application



See adjustment warning note on page 12

Adjustment ranges shown are with the grade adjustment mechanism in neutral position.

See Fascia Overhang Bracket Extension on Page 17

## Deep Adjustable Fascia Overhang Bracket (HFOB-ADJ DEEP)

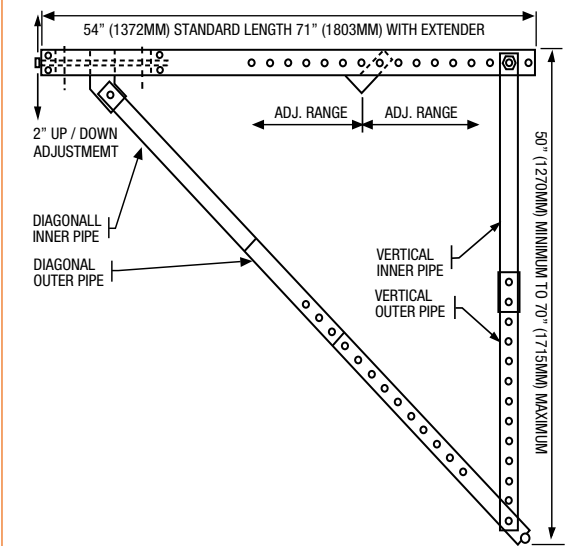
Deep Adjustable Fascia Overhang Bracket HFOB-ADJ DEEP is basically the same as the Adjustable Fascia Overhang Bracket shown on the preceding page with the addition of longer vertical and diagonal members. The addition of longer vertical and diagonal members allows the bracket to be used on deep steel girders, transferring forming loads to the lower section of the girder.

### Safe Working Load

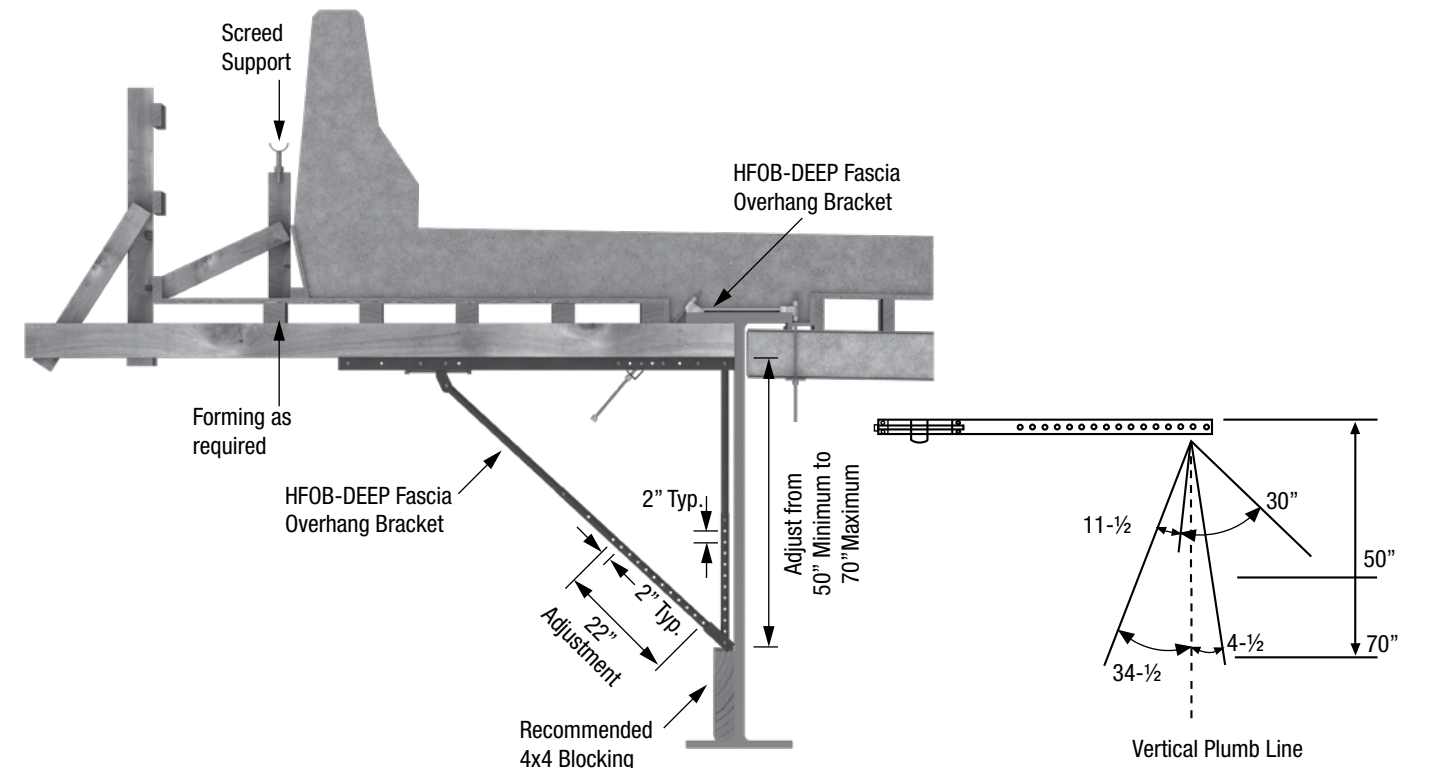
17.0 kN (3,800 lb)

@ Approximate 2:1 Safety Factor

SECTION PROPERTIES	CHANNELS (HORIZONTAL)	LEGS (INTER & OUTER)
Yield Strength (min) ksi (MPa)	50 (345)	50 (345)
Tensile Strength (min) ksi (MPa)	65 (450)	65 (450)
Total Section Modulus in <sup>3</sup> (mm <sup>3</sup> )	0.536 (8786)	
Moment of Inertia in <sup>4</sup> (mm <sup>4</sup> )	0.784 (326,445)	



## Typical Deep Adjustable Fascia Overhang Bracket Application



NB. Loads should be transferred to the bottom flange of extra Deep Girder, with the use of blocking if necessary. The Girder should be checked to ensure it withstands the load transferred by overhang bracket.

Dimensions shown are taken with adjusting mechanism neutral position.

## ARB-89-L Overhang Bracket

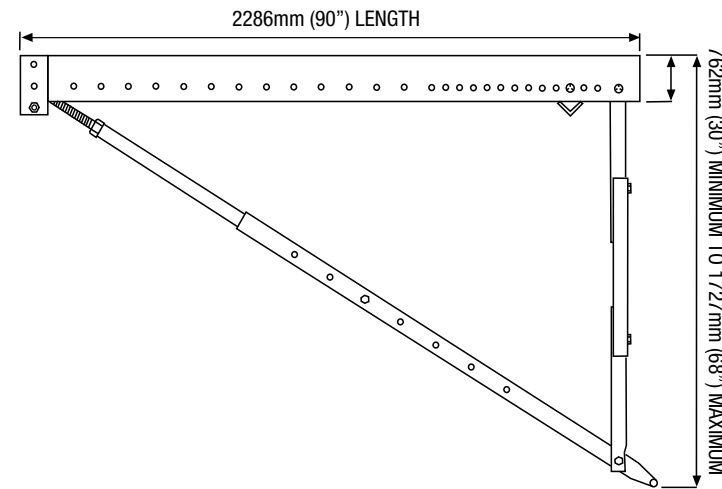
Ideal for use on steel or concrete girders with the AR 20mm (3/4") Hangers.

**Safe Working Load**  
26.8 kN (6,000 lb)

@ Approximate 2:1 Safety Factor

SECTION PROPERTIES	CHANNELS (HORIZONTAL)	LEGS (VERTICAL)	LEGS (DIAGONAL)
Yield Strength (min) ksi (MPa)	50 (345)	50 (345)	42 (290)
Tensile Strength (min) ksi (MPa)	65 (450)	65 (450)	58 (400)
Total Section Modulus in <sup>3</sup> (mm <sup>3</sup> )	4.796 (78,587)		
Moment of Inertia in <sup>4</sup> (mm <sup>4</sup> )	14.387 (5,988,321)		

As with any support bracket, the working load depends on the loading condition, the bracket's vertical height, connection hardware and support location and thus has a variable safe working load.



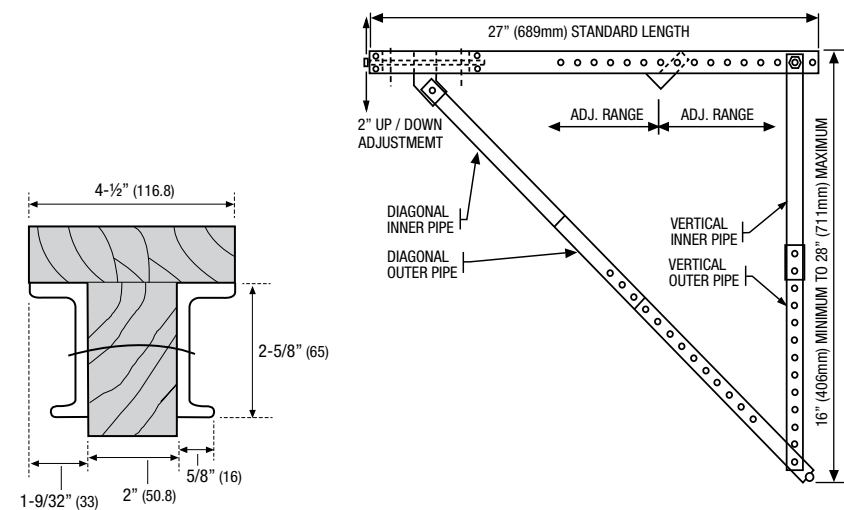
## AR Bridge Overhang Bracket Junior

As with any support system, the working load is dependent on the loading condition, the bracket vertical height, connection hardware and support location and thus have a variable safe working load.

**Safe Working Load**  
16.7 kN (3,750 lb)

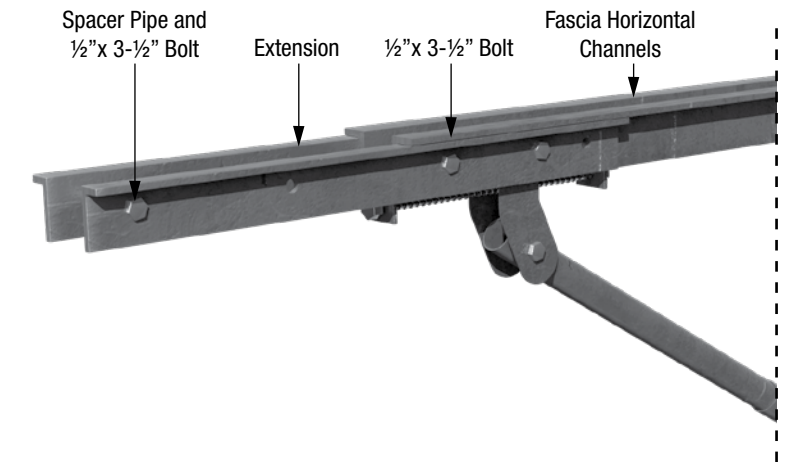
@ Approximate 2:1 Safety Factor

As with any support system, the working load is dependent on the loading condition, the bracket vertical height, connection hardware and support location and thus have a variable safe working load.



## AR Fascia Bridge Overhang Bracket Extension

The Bridge Fascia Overhang Extension attaches to both sides of the outboard end of the overhang bracket's horizontal channels to extend the usable working surface of the bracket. The extension is used when the overhang formwork is required to extend beyond the end of the horizontal channels of the bridge overhang bracket. The extension is used to support walkway loads only. Follow spacing requirements as specified by OSHA and other local agencies. Two 1/2" x 3-1/2" long NC THD Grade 5 bolts and nuts are used to attach the extension to the horizontal channels of the bridge overhang bracket.



## Adjustable Fascia Overhang Bracket (HFOB-ADJ) Modified for shallow girder applications

Adjustable Fascia Overhang Bracket HFOB-ADJ can be field modified for shallow girder applications by removing the inner vertical pipe and connecting the vertical outer pipe directly to the horizontal channels.

Please consult with NCA technical department for recommendations on bracket spacing for your particular application.

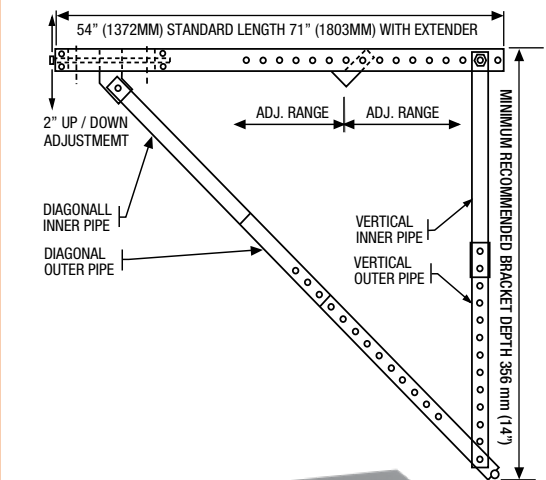
N. B. Reducing the bracket depth reduces the load capacity of the bracket and increases the hanger load.

**Diagonal Leg Safe Working Load**  
17.0 kN (3,800 lbs)

@ Approximate 2:1 Safety Factor

SECTION PROPERTIES	CHANNELS (HORIZONTAL)	LEGS (INTER & OUTER)
Yield Strength (min) ksi (MPa)	50 (345)	50 (345)
Tensile Strength (min) ksi (MPa)	65 (450)	65 (450)
Total Section Modulus in <sup>3</sup> (mm <sup>3</sup> )	0.536 (8786)	
Moment of Inertia in <sup>4</sup> (mm <sup>4</sup> )	0.784 (326,445)	

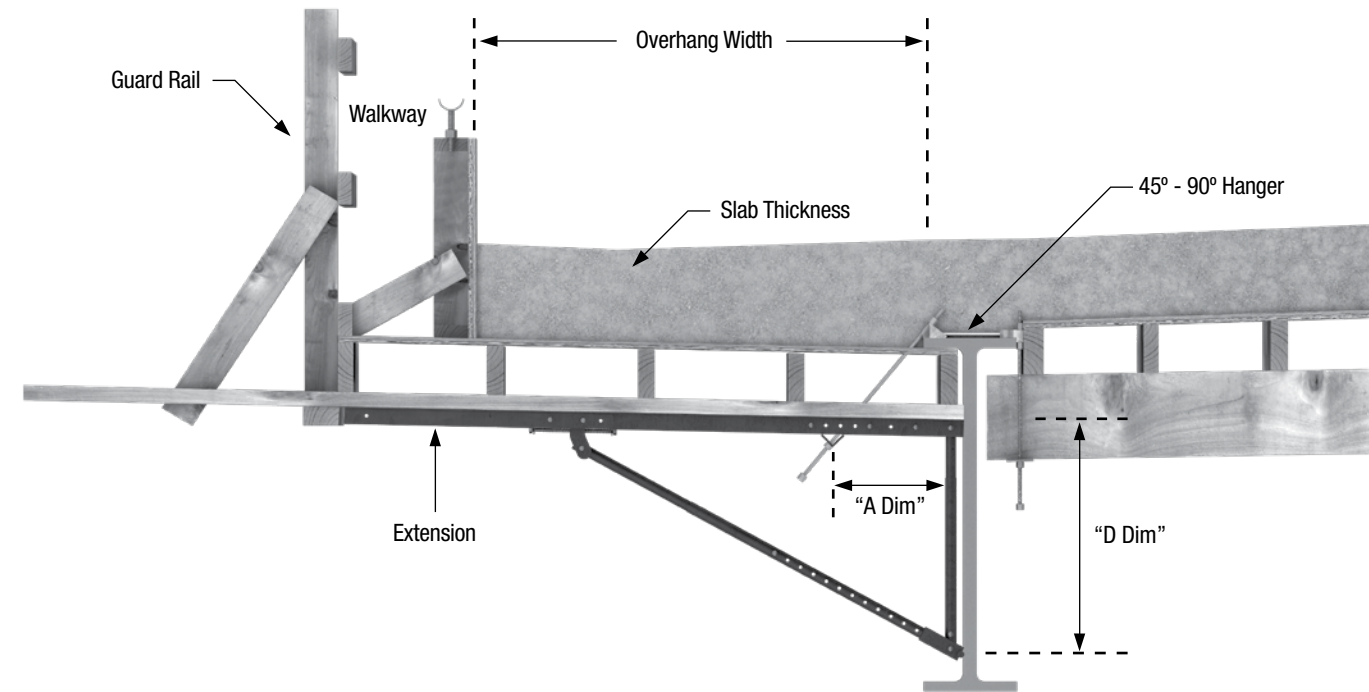
Recommended Bracket Spacing please Consult AR's Technical Department. Bracket accessories, such as Guard rail Adapter and Extension are available for the Adjustable Fascia Overhang Bracket. Contact your local AR Representative for additional information.



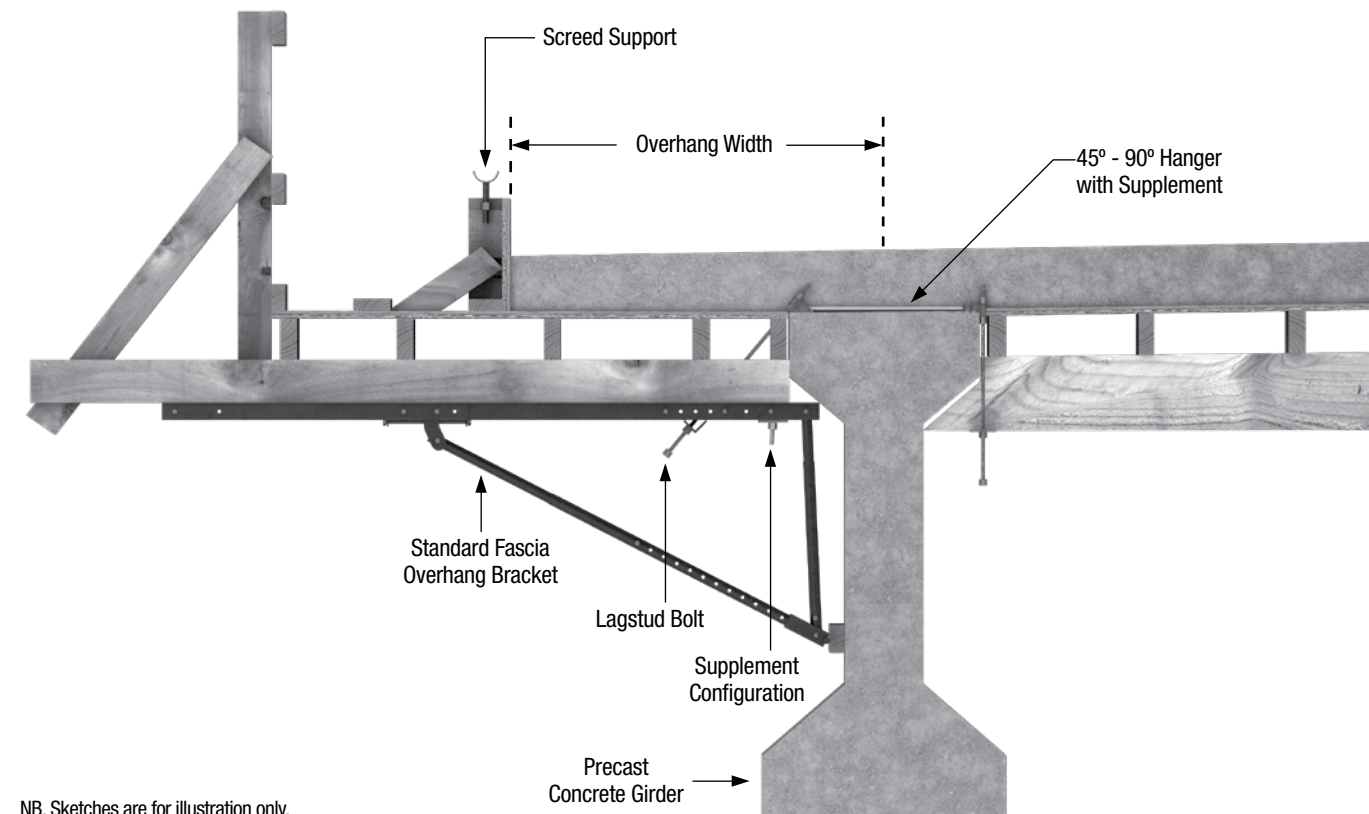
2x4 Guardrail Adapter

## HFOB - STD- Overhang Bracket and Exterior Hanger Spacing For use on Fascia Overhang on Steel/Precast Girder

### Steel Girder Application



### Precast Girder Application



NB. Sketches are for illustration only.

## Load Tables

### For 24" (610) Overhang Width (HFOB-STD)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)	
SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")									
150mm (6")	500mm (20")	915 (36)	1220 (48)	1525 (60)	1675 (66)	2285 (90)	2438 (96)	2438 (96)	HTBH
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A
		457 (18)	457 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A
200mm (8")	500mm (20")	915 (36)	1065 (42)	1370 (54)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A
		457 (18)	457 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A
250mm (10")	500mm (20")	915 (36)	1065 (42)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A
		457 (18)	457 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A
300mm (12")	500mm (20")	915 (36)	1065 (42)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A
		457 (18)	457 (18)	457 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A

Design Criteria  
 Concrete Loading = 2000 kg/m<sup>3</sup> (150 lb/ft<sup>3</sup>)  
 Live Load = 1200 kg/m<sup>3</sup> (75 lb/ft<sup>3</sup>)  
 Walkway Load = 1200 kg/m<sup>3</sup> (75 lb/ft<sup>3</sup>)  
 Screed 8 - Wheel Machine  
 Wheel Spacing - 610 mm (24") c/c  
 \*Lumber must be checked to make sure it will span selected spacing.  
 \*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### For 36" (610) Overhang Width (HFOB-STD)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)	
SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")									
150mm (6")	500mm (20")	455* (18)	455* (18)	455* (18)	610* (24)	915* (36)	1220 (48)	1525 (60)	HTBH
		455* (18)	455* (18)	455* (18)	610* (24)	915* (36)	1065 (42)	1370 (54)	HFR-A
			455* (18)	455* (18)	455* (18)	610* (24)	915* (36)	1065 (42)	HRH-A
200mm (8")	500mm (20")	455* (18)	455* (18)	455* (18)	610* (24)	915* (36)	1220 (48)	1525 (60)	HTBH
		455* (18)	455* (18)	455* (18)	610* (24)	915* (36)	1065 (42)	1220 (48)	HFR-A
			455* (18)	455* (18)	455* (18)	610* (24)	760* (30)	915* (36)	HRH-A
250mm (10")	500mm (20")	455* (18)	455* (18)	455* (18)	610* (24)	915 (36)	1065 (42)	1370 (54)	HTBH
		455* (18)	455* (18)	455* (18)	610* (24)	760* (30)	915 (36)	1065 (42)	HFR-A
			455* (18)	455* (18)	455* (18)	610* (24)	610* (24)	760* (30)	HRH-A
300mm (12")	500mm (20")	455* (18)	455* (18)	455* (18)	610* (24)	760 (30)	1065 (42)	1370 (54)	HTBH
		455* (18)	455* (18)	455* (18)	610* (24)	760 (30)	760 (30)	915 (36)	HFR-A
				455* (18)	455* (18)	455* (18)	610* (24)	760 (30)	HRH-A

\* Supplement required to maintain stability

**LOAD TRANSFER**  
 CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## Load Tables

For 1220mm (48") Overhang Width (HFOB-STD)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)	
SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")									
150 mm (6")	500mm (20")					455* (18)	610* (24)	760* (30)	HTBH
						455* (18)	610* (24)	760* (30)	HFR-A
						455* (18)	610* (24)	760* (30)	HRH-A
200 mm (8")	500mm (20")					455* (18)	610* (24)	760* (30)	HTBH
						455* (18)	610* (24)	760* (30)	HFR-A
						455* (18)	455* (18)	610* (24)	HRH-A
250 mm (10")	500mm (20")					455* (18)	455* (18)	760* (30)	HTBH
						455* (18)	455* (18)	760* (30)	HFR-A
						455* (18)	455* (18)	610* (24)	HRH-A
300 mm (12")	500mm (20")					455* (18)	455* (18)	610* (24)	HTBH
						455* (18)	455* (18)	610* (24)	HFR-A
						455* (18)	455* (18)	455* (18)	HRH-A

\* Supplement required to maintain stability

### Design Criteria

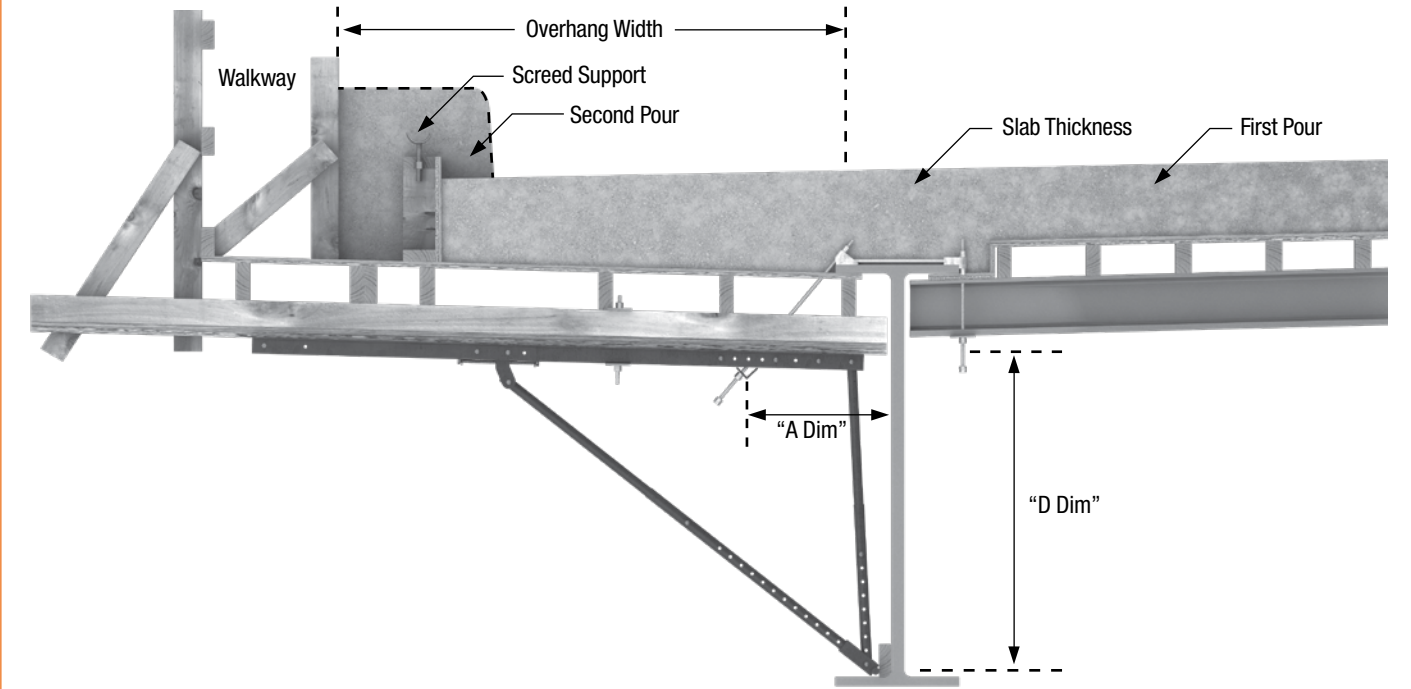
Concrete Loading = 2000 kg/m<sup>3</sup> (150 lb/ft<sup>3</sup>)  
 Live Load = 1200 kg/m<sup>3</sup> (75 lb/ft<sup>3</sup>)  
 Walkway Load = 1200 kg/m<sup>3</sup> (75 lb/ft<sup>3</sup>)  
 Screed 8 - Wheel Machine  
 Wheel Spacing - 610 mm (24") c/c  
 \*Lumber must be checked to make sure it will span selected spacing.  
 \*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

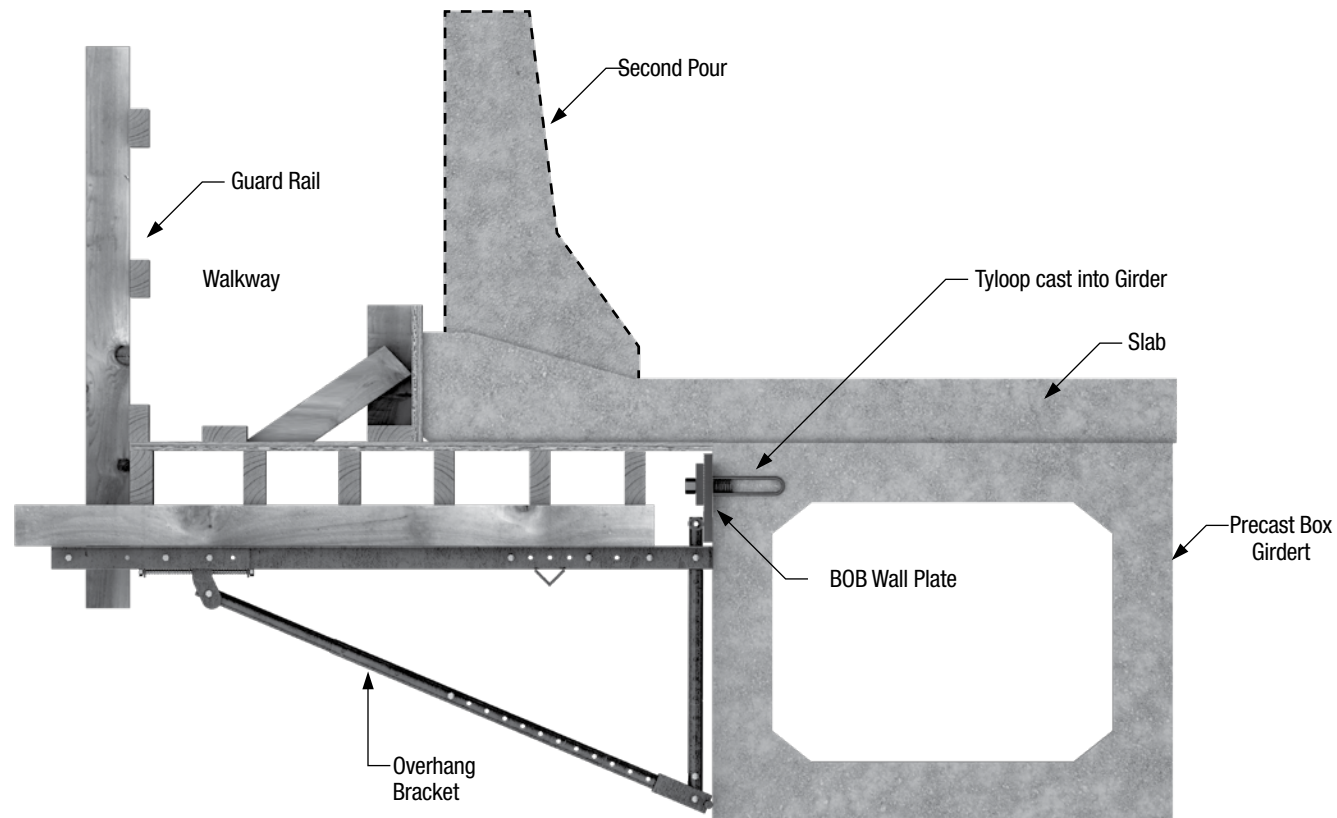
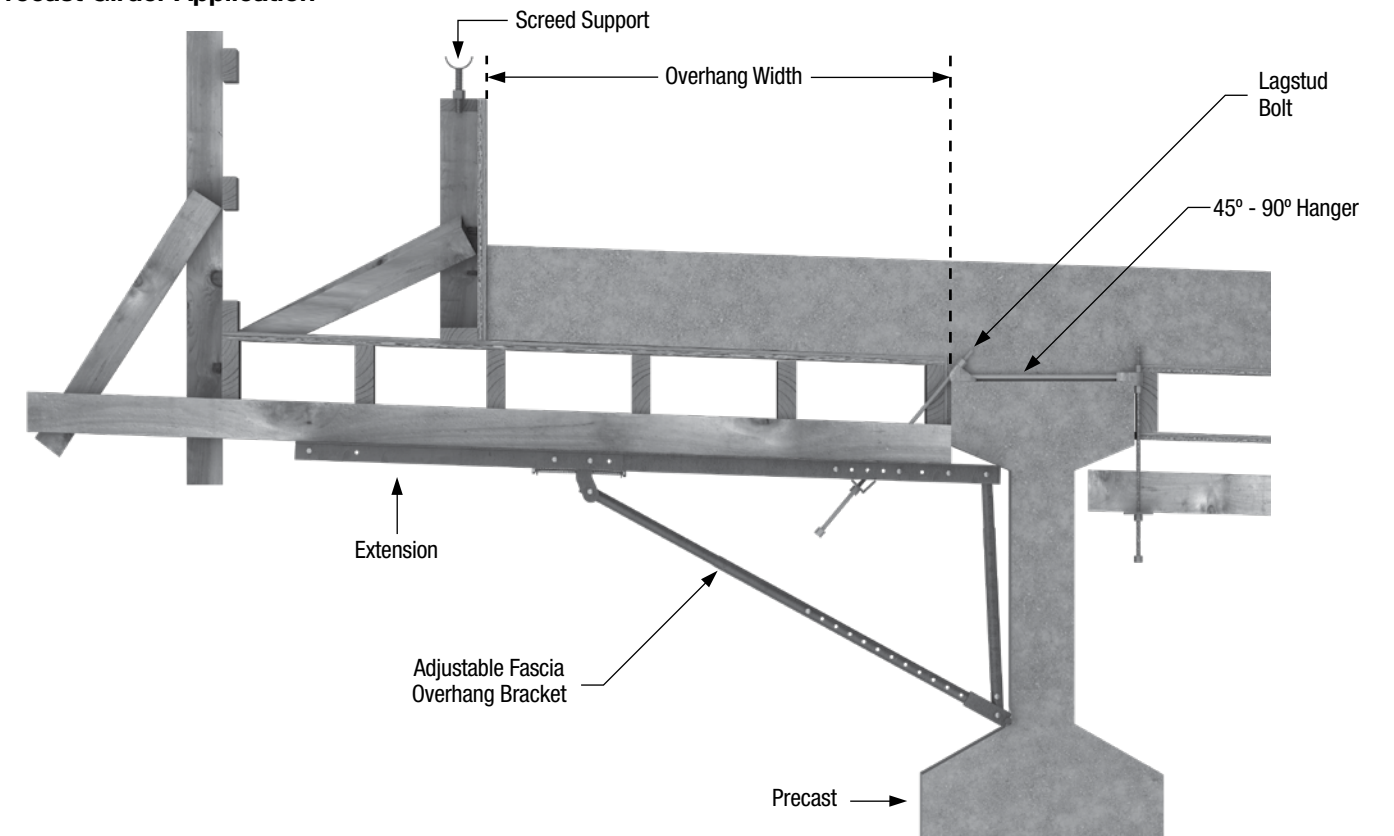
CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## HFOB - ADJ - Overhang Bracket and Exterior Hanger Spacing For use on Fascia Overhang on Steel/Precast Girder

### Steel Girder Application



### Precast Girder Application



## Load Table

For 24" (610mm) Overhang Width (HFOB-ADJ)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE	
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)		
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")								
150 mm (6")	775 mm (31")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	1000 mm (40")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	1225 mm (49")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	200 mm (8")	775 mm (31")	1220 (48)	1370 (54)	1525 (60)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A
1000 mm (40")		1220 (48)	1370 (54)	1525 (60)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A	
1225 mm (49")		1220 (48)	1370 (54)	1525 (60)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A	
250 mm (10")		775 mm (31")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A
	1000 mm (40")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1225 mm (49")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	300 mm (12")	775 mm (31")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (72)	1825 (84)	2130 (84)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A
1000 mm (40")		1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (72)	1825 (84)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
1225 mm (49")		1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (72)	1825 (84)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.  
\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## Load Table

For 36" (915) Overhang Width (HFOB-ADJ)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE	
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)		
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")								
150mm (6")	775 mm (31")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1000 mm (40")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1225 mm (49")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	200mm (8")	775 mm (31")	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH
			455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
1000 mm (40")		915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH	
		455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
1225 mm (49")		915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH	
		455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
250mm (10")		775 mm (31")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
	1000 mm (40")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
	1225 mm (49")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
	300mm (12")	775 mm (31")	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
1000 mm (40")		760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
1225 mm (49")		760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.  
\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## Load Table

For 48" (1220mm) Overhang Width (HFOB-ADJ)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)	
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")							
150mm (6")	775 mm (31")	610* (24)	760* (30)	915* (36)	1065 (42)	1370 (54)	1525 (60)	1675 (66)	HTBH
		455* (18)	455* (18)	610* (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
	1000 mm (40")	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
1225 mm (49")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A	
200mm (8")	775 mm (31")	610* (24)	610 (24)	760 (30)	915 (36)	1220 (48)	1370 (54)	1525 (60)	HTBH
		455* (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
	1000 mm (40")	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
1225 mm (49")	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A	
250mm (10")	775 mm (31")	610* (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH
		455* (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	760 (30)	HFR-A
				455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	HRH-A
	1000 mm (40")	760 (30)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	760 (30)	HFR-A
				455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	HRH-A
1225 mm (49")	760 (30)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH	
	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	760 (30)	HFR-A	
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	HRH-A	
300mm (12")	775 mm (31")	610 (24)	610 (24)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A
					455 (18)	455 (18)	455 (18)	610 (24)	HRH-A
	1000 mm (40")	610 (24)	760 (30)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A
					455 (18)	455 (18)	455 (18)	610 (24)	HRH-A
1225 mm (49")	610 (24)	760 (30)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH	
	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A	
				455 (18)	455 (18)	455 (18)	610 (24)	HRH-A	

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

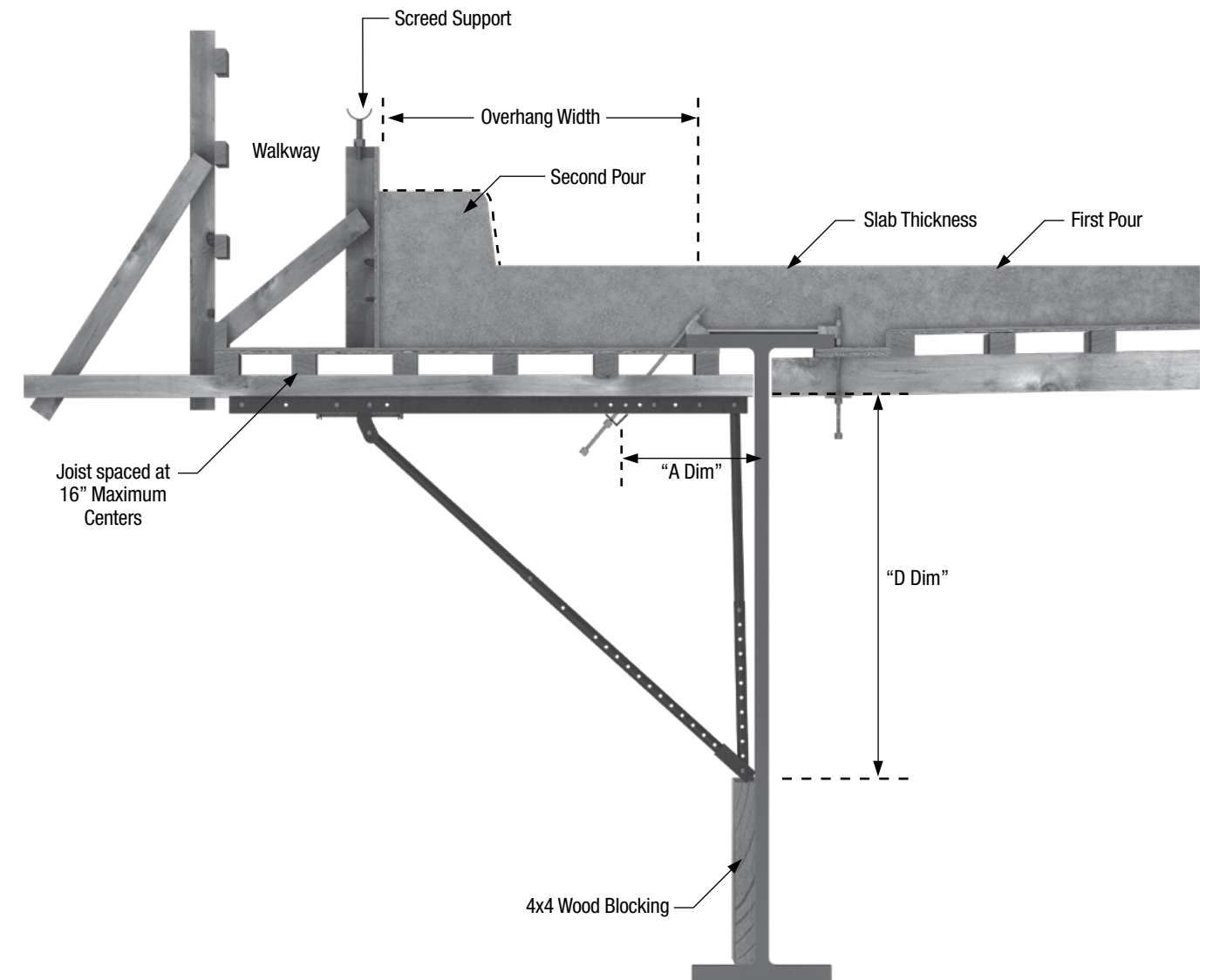
Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.  
\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## HFOB - ADJ - Overhang Bracket and Exterior Hanger Spacing For use on Fascia Overhang on Steel/Precast Girder

### Steel Girder Application



NB. Sketches are for illustration only.

## Load Table

For 24" (610mm) Overhang Width (HFOB-ADJ-DEEP)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE	
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)		
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")								
150mm (6")	1250 mm (50")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	1500 mm (60")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	1675 mm (67")	1220 (48)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	2438 (96)	HTBH	
		610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1525 (60)	1825 (72)	HFR-A	
		455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	HRH-A	
	200mm (8")	1250 mm (50")	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1980 (78)	2285 (90)	2438 (96)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A
1500 mm (60")		1220 (48)	1370 (54)	1525 (60)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH	
		610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A	
1675 mm (67")		1220 (48)	1370 (54)	1525 (60)	1825 (72)	1980 (78)	2285 (90)	2438 (96)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	1065 (42)	1220 (48)	HRH-A	
250mm (10")		1250 mm (50")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A
	1500 mm (60")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1675 mm (67")	1065 (42)	1220 (48)	1370 (54)	1675 (66)	1825 (72)	2130 (84)	2285 (90)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HFR-A	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	300mm (12")	1250 mm (50")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH
			610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A
1500 mm (60")		1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
1675 mm (67")		1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1370 (54)	1525 (60)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.  
\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.

## Load Table

For 36" (915) Overhang Width (HFOB-ADJ-DEEP)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)							TYPE	
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)	0 (0)		
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")								
150mm (6")	1250 mm (50")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1500 mm (60")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	1675 mm (67")	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	2130 (84)	HTBH	
		610 (24)	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1370 (54)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	760 (30)	915 (36)	1065 (42)	HRH-A	
	200mm (8")	1250 mm (50")	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH
			455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
1500 mm (60")		915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH	
		455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
1675 mm (67")		915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	1825 (72)	HTBH	
		455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
250mm (10")		1250 mm (50")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
	1500 mm (60")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
	1675 mm (67")	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
	300mm (12")	1250 mm (50")	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH
			455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
			455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A
1500 mm (60")		760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	
1675 mm (67")		760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HRH-A	

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.  
\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.



## Load Table

For 48" (1220mm) Overhang Width (HFOB-ADJ-DEEP)

SLAB THICKNESS	DEPTH "D"	SCREED LOAD PER BRACKET Kg (Lbs)						TYPE	
		680 (1500)	567 (1250)	453 (1000)	340 (750)	225 (500)	113 (250)		0 (0)
		SCREED WHEEL SPACING = 610mm (24") "A" DIMENSION = 372mm (14.65")							
150mm (6")	1250 mm (50")	610 (24)	760 (30)	760 (30)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
	1500 mm (60")	610 (24)	760 (30)	915 (36)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
1675 mm (67")	610 (24)	760 (30)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	1675 (66)	HTBH	
	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	HFR-A	
	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A	
200mm (8")	1250 mm (50")	610 (24)	760 (30)	915 (36)	1220 (48)	1370 (54)	1525 (60)	HTBH	
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HFR-A	
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
	1500 mm (60")	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH
		455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HFR-A	
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A
1675 mm (67")	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	1525 (60)	HTBH	
	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	915 (36)	HFR-A		
	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HRH-A	
250mm (10")	1250 mm (50")	610 (24)	610 (24)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A	
		455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A	
	1500 mm (60")	610 (24)	760 (30)	760 (30)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH
		455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A	
		455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A	
1675 mm (67")	610 (24)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	1370 (54)	HTBH	
	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A		
	455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A		
300mm (12")	1250 mm (50")	610 (24)	610 (24)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A
		455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A	
	1500 mm (60")	610 (24)	610 (24)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH
		455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A
		455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A	
1675 mm (67")	610 (24)	760 (30)	760 (30)	915 (36)	915 (36)	1065 (42)	1220 (48)	HTBH	
	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	610 (24)	760 (30)	HFR-A	
	455 (18)	455 (18)	455 (18)	455 (18)	455 (18)	610 (24)	HRH-A		

### Design Criteria

Concrete Loading = 2000 kg/m<sup>3</sup>  
(150 lb/ft<sup>3</sup>)

Live Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

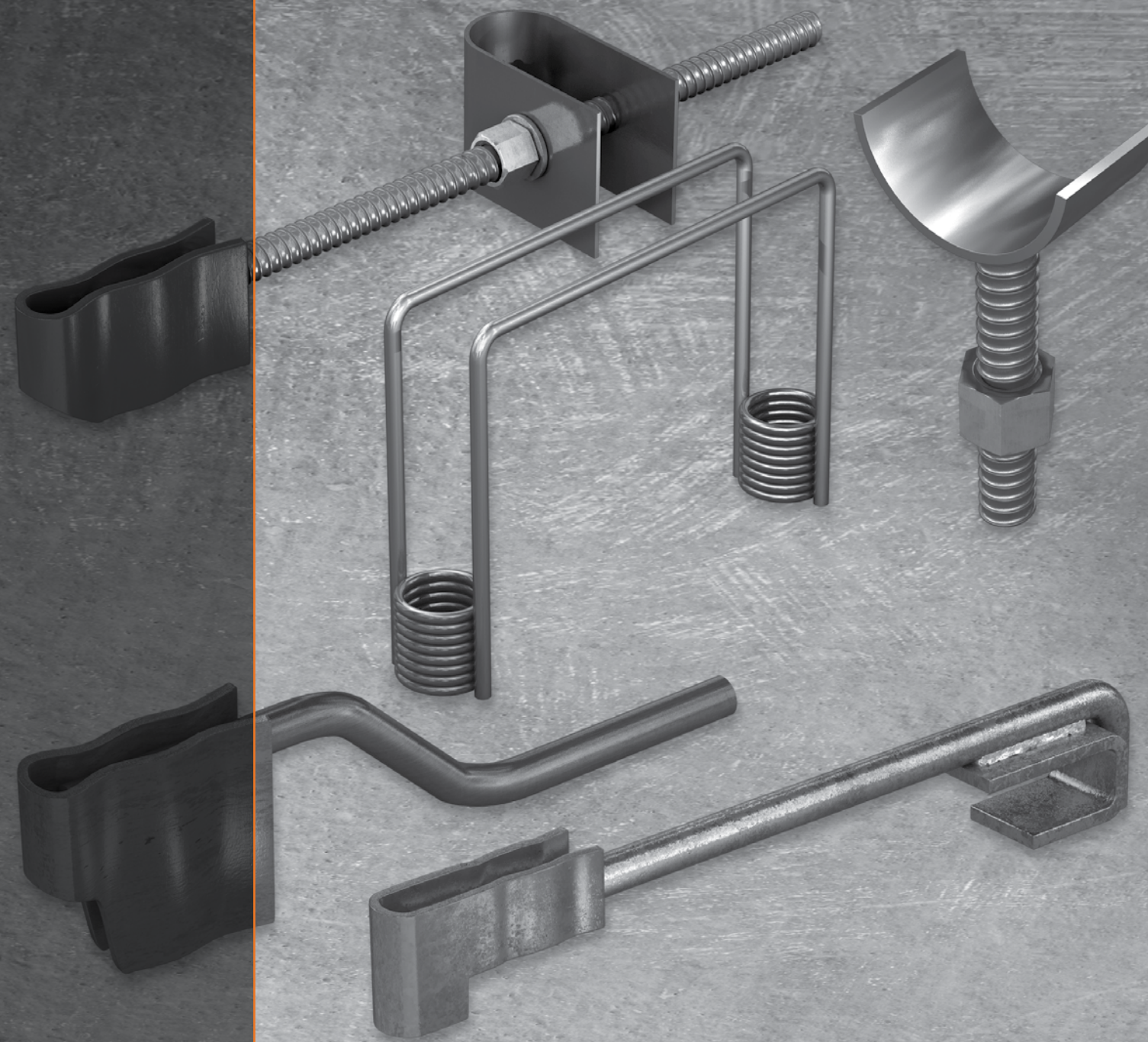
Walkway Load = 1200 kg/m<sup>3</sup>  
(75 lb/ft<sup>3</sup>)

Screed 8 - Wheel Machine  
Wheel Spacing - 610 mm (24") c/c  
\*Lumber must be checked to make sure it will span selected spacing.

\*Contact AR's Technical Service Department for recommended spacing, when conditions of your project vary from the design criteria.

### LOAD TRANSFER

CONTRACTOR IS TO VERIFY WITH STRUCTURAL ENGINEER THE CAPACITY OF STRUCTURE TO SUSTAIN IMPOSED LOADS.



# INTERIOR FORM

### Heavy Ty-Back 90°-90° Hanger (HTBH)

Heavy Ty-Back Hanger HTBH is used to support bridge deck interior formwork. The 90° - 90° Ty-Back Hanger is specially designed to react lateral forces prevalent in many forming conditions. The 90° - 90° Ty-Back Hanger is fabricated with two 13mm (1/2") Ty-Back end clips welded to a wire strut. This hanger is also available in 20mm (3/4") and system fabricated with ends to accommodate 20mm (3/4") rods, for higher loads.

#### Safe Working Load

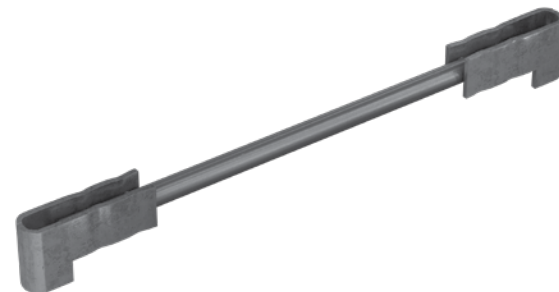
6M	1/2" HTBH-A	26.7 kN (6,000 lb)
10M	3/4" HTBH-A	45.0 kN (10,000 lb)
12M	3/4" System	53.0 kN (12,000 lb)
18M	3/4" System Double Hanger	80.0 kN (18,000 lb)

Per side @ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HTBH	HDG
Example	200	350mm (14")	20mm (3/4")-HTBH	

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
 NB. When hangers are used on concrete beams, the safe working load shown is based on a minimum concrete flange thickness of 5" and beams made with normal weight concrete having reached a minimum compressive strength of 5,000 psi. For hangers used on concrete beams with conditions not meeting these requirements please contact AR Technical Department.  
 AR recommends the use of bearing plates under hanger end clips for hanger loads greater than 26kN (6000 lb) when used on concrete girders or supports. Please consult with AR Technical Department for custom made hangers with loads other than that listed in this catalog.



### Type #1 - 90° - 90° Hanger (HFR)

Hanger HFR consists of two 13mm (1/2") dia. 90° pressed steel HFR end clips welded to a single wire strut. The hanger permits installation and adjustment from atop the deck. The 90° - 90° HFR Hanger has a nominal 10mm (3/8") haunch relief.

#### Safe Working Load

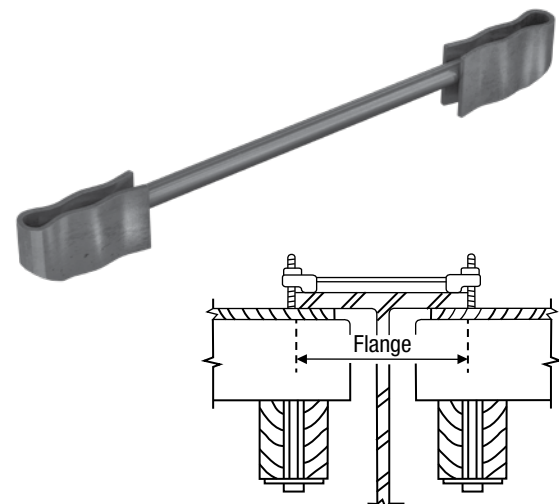
16.9 kN (3,800 lb)

Per side @ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HFR	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)



### Type #2 - 90°-90° Haunch Hanger (HRH) | Type #3 - 90°-90° Haunch Hanger (HRH)

Haunch Hanger HRH is similar to the Standard HFR Hanger.

Haunch relief heights: Type #2 HRH is 25mm (1")  
 Type #3 HRH is 38mm (1.5")

#### Safe Working Load

10.7 kN (2,400 lb)

Also available Heavy Hanger for the 1.5" haunch with 2 wire struts - 13.4 kN (3,000 lb)

Type #2 - 3000 lb

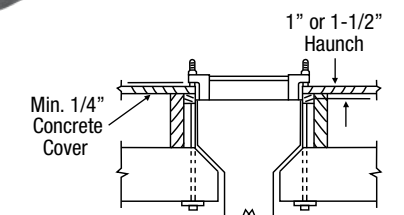
Type #3 - 2400 lb

Type #3 - 2 Wire Struts 3000 lb  
 Per side @ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	TYPE	COATING
Example	200	350mm (14")	HFR	#3	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG).  
 NB. Consult with the AR Technical Department for hangers with higher loads.



### 90° Precast Half Hanger (PHFR-H) and (PHTBH-H)

Precast Half Hangers PHFR-H/PHTBH-H are fabricated with a 13mm (1/2") dia. 90° HFR end clip and is designed to be cast into the top of a concrete girder. Available in standard and heavy.

#### Safe Working Load

3.5M	1/2" Standard	15.5 kN (3,500 lb)
6M	1/2" Heavy Duty	26.7 kN (6,000 lb)
10M	3/4" Standard	45.0 kN (10,000 lb)

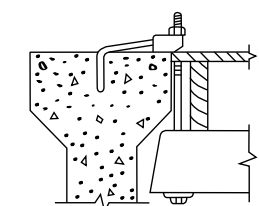
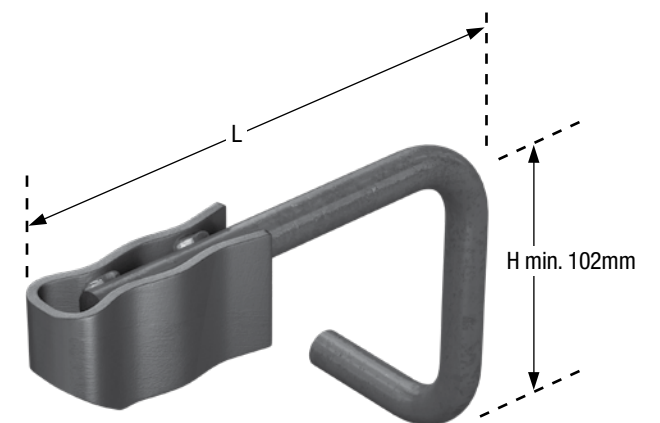
Per side @ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	PHFR-H STD	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG).  
 NB. Precast Hangers can be Made to Custom Lengths Upon Request.



\*Embedment height measured from bottom of horizontal strut wire to bottom of hook wire, as illustrated on the image above.

## 90° Ty-Down Hanger (HFR-HK) and (HTBH-HK)

Ty-Back Ty-Down Hanger HTBH-HK is manufactured with a 13mm (1/2") diameter 90° end clip welded to one end of the hanger's strut. The other end of the strut has a reinforced, 180° wraparound configuration. The wraparound end is fabricated to slip over the flange of a steel bridge beam. This hanger is also available in a 20mm (3/4") system fabricated with ends to accommodate 20mm (3/4") rods, for higher loads.

### Safe Working Load

3.8M 1/2" Type      16.9 kN (3,800 lb)  
Per side @ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	FLANGE WIDTH	PRODUCT NAME	COATING	FLANGE THICKNESS
Example	200	350mm (14")	PHFR-H STD	HDG	20mm (3/4")

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

### Safe Working Load

6M 1/2" Heavy      26.7 kN (6,000 lb)  
10M 3/4" Heavy      45.5 kN (10,000 lb)  
Per side @ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

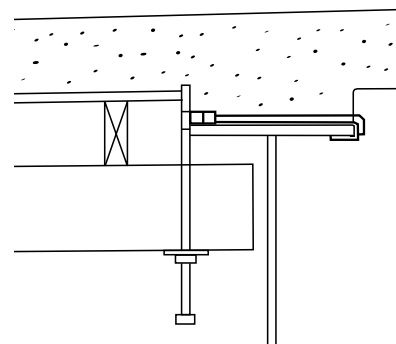
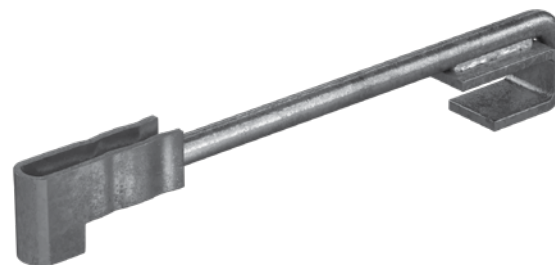
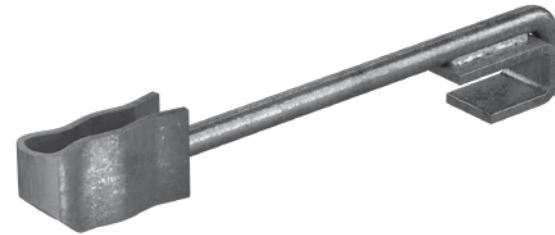
#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	FLANGE WIDTH	PRODUCT NAME	COATING	FLANGE THICKNESS
Example	200	350mm (14")	HTBH-HK	HDG	22mm (7/8")
Example	200	350mm (14")	3/4"-HTBH-HK	HDG	22mm (7/8")

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

CAUTION: Care should be exercised when welding any hanger. See related note in the General Information section.

WARNING: Hook Hanger is designed and fabricated to slip around the girder flange. The use of force/hammering to fit hanger to the girder flange is not permitted and may compromise the integrity of the hanger. If force is required to fit the hanger clips to the girder flange then the hanger clips are incorrect and should be replaced.



## Type #1 - 90° Half Hanger (HFR-HW), (HFR-H)

## Type #2 - 90° Haunch Half Hanger (HRH-HW), (HRH-H)

## Type #3 - 90° Haunch Half Hanger (HRH-HW), (HRH-H)

Half Hangers HFR-H/HFR-HW and Haunch Hangers HRH-H/HRH-HW are manufactured with a single 13mm (1/2") 90° HFR /HRH end clip welded to a wire strut. These units are used where conditions prevent the use of standard double-ended hangers.

The 90° Haunch Half Hanger HFR-H/HRH-H has a jogged strut for attachment to the top of a steel girder.

The 90° Haunch Half Hanger HFR-HW/HRH-HW have a straight strut and are secured to the stirrups of a concrete girder. Length of the Half Hanger and Haunch Half Hanger is 304mm (12") from the Lagstud centre line to the end of the strut.

Haunch Relief Heights:

- Type #1 HFR-HW and HFR-H is 10mm (3/8") haunch
  - Safe Working Load: 3.5M 1/2" 15.5 KN (3500 lb)
- Type #2 HRH-H is 25mm (1") haunch
  - Safe Working Load: 3M 1/2" 13.4 KN (3000 lb)
- Type #3 HRH-H is 38mm (1.5") haunch
  - Safe Working Load: 2.4M 1/2" (10.7 KN (2400 lb)

@ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	PHFR-H STD	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

CAUTION: Care must be exercised when welding or bending a hanger. Field conditions, welding, etc., may limit the hanger to a lower value. Field tests should be conducted to establish actual safe working loads. Failure to perform field tests may result in premature.



90° Half Hanger  
HFR-H



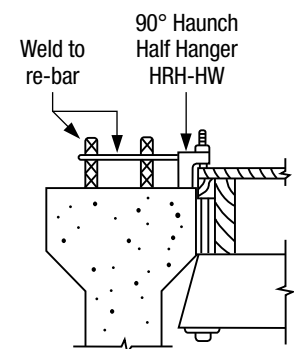
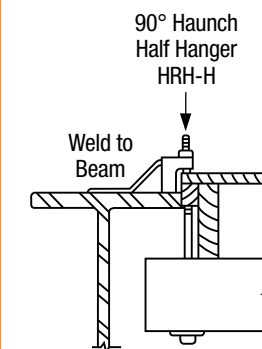
90° Half Hanger  
(Straight Strut)  
HFR-HW



90° Half Hanger  
HRH-H



90° Half Hanger  
(Straight Strut)  
HRH-HW



### Type #1 - 90° Adjustable Half Hanger (HFR-HAJ)

Adjustable Half Hanger HFR-HAJ consists of a 13mm (1/2") dia. 90° HFR end clip welded to a length of 13mm (1/2") lag threaded rod. Available with one or two stirrup clips for attachment to the bridge beam stirrups. The 90° HFR-HAJ Adjustable Half Hanger is used to support interior deck formwork where one sided hangers are required but welding is not permitted. Standard unit is 230mm (9") long overall with one stirrup clip. Minimum overall length available is 150mm (6").

#### Safe Working Load

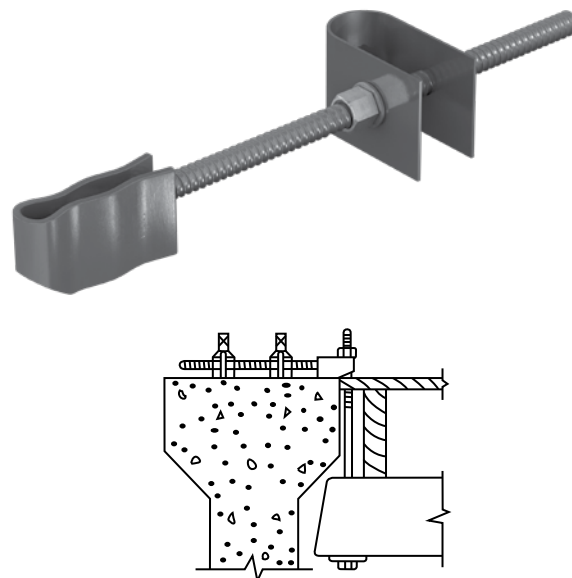
1.1M	1 Stirrup Clips	4.9 kN (1,100 lb)
3M	2 Stirrup Clips	13.4 kN (3,000 lb)

@ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	LENGTH	PRODUCT NAME	CLIPS	COATING
Example	200	350mm (14")	HFR-HAJ	2	EP

\*Available in Plain Steel (B), Electro Plated (EP)



### Type #1 - 15° Adjustable Half Hanger (HFRL-HAJ)

Adjustable Half Hanger HFRL-HAJ consists of a 13mm (1/2") dia. 15° HFRL end clip welded to a length of 13mm (1/2") Lag threaded rod. Available with one or two stirrup clips for attachment to the bridge beam stirrups. The 15° HFRL-HAJ Adjustable Half Hanger is used to support interior deck formwork where one sided hangers are required but welding is not permitted. Standard unit is 230mm (9") long overall with one stirrup clip. Minimum overall length available is 150mm (6").

#### Safe Working Load

1.1M	1 Stirrup Clips	4.9 kN (1,100 lb)
3M	2 Stirrup Clips	13.4 kN (3,000 lb)

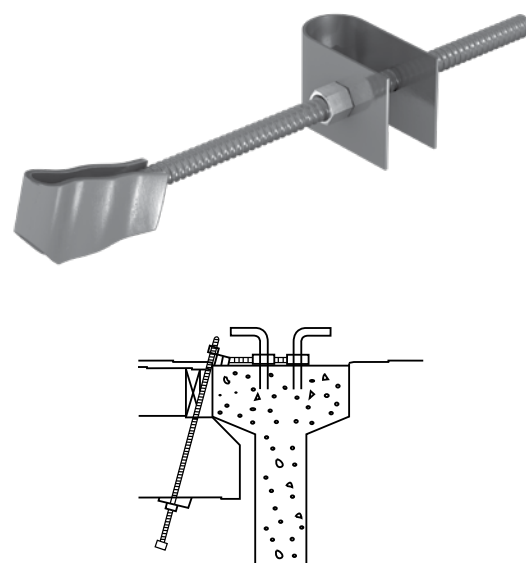
@ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	LENGTH	PRODUCT NAME	CLIPS	COATING
Example	200	350mm (14")	HFR-HAJ	2	B

\*Available in Plain Steel (B), Electro Plated (EP)



### 15°-15° Hanger (HFRL)

Hangers HFRL are designed to have bolts at 15° from the vertical. Where 90° hangers provide support too close to the end of the ledger, the HFRL support is away from the end of ledgers. HFRL Hanger consists of two 13mm (1/2") dia. 15° pressed steel HFRL end clips welded to a single wire strut. The hanger permits installation and adjustment from atop the deck. The 15° - 15° HFRL Hanger has a nominal 10mm (3/8") haunch relief.

#### Safe Working Load

3.8M	1/2" Type 1	16.9 kN (3,800 lb)
6M	1/2" Heavy	26.7 kN (6,000 lb)
10M	3/4" Heavy	45.0 kN (10,000 lb)
18M	3/4" Heavy	80.0 kN (18,000 lb)

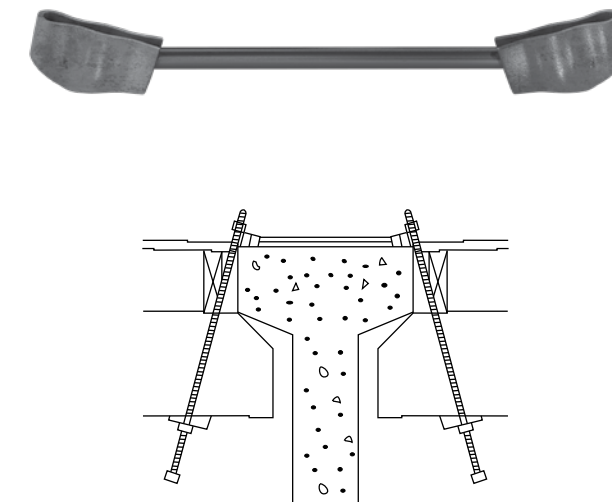
Per side @ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	GIRDER FLANGE WIDTH	PRODUCT NAME	COATING
Example	200	350mm (14")	HFRL	HDG

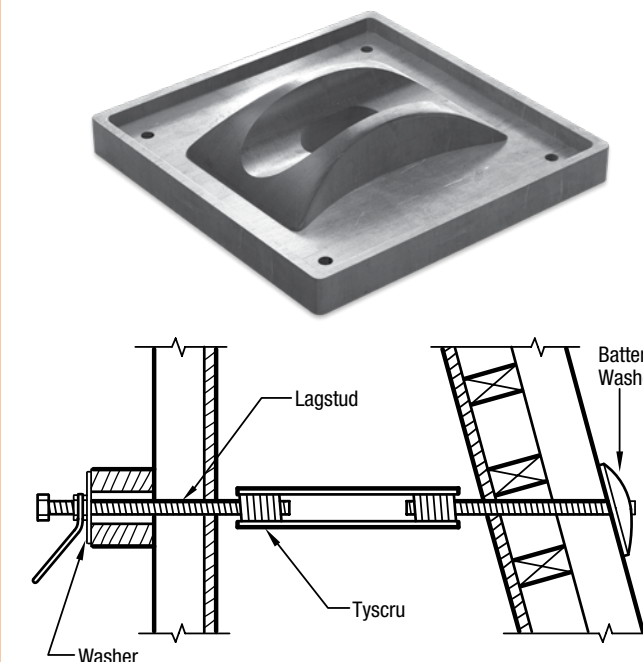
\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG).



### Batter Washer

AR Batter Washers are designed to hold a lagstud at any angle up to 45° without need for wedging. Nail holes are provided for attaching the washers to the walers or strongbacks. Multiple lumber grips on the underside prevent slippage when the washers are not nailed. Available for all lagstud sizes.

Bolt Diameter		Washer Dimensions		Washer Height	
mm	(in)	mm	(in)	mm	(in)
13 mm	(1/2")	89 mm x 89 mm	(3 1/2" x 3 1/2")	25 mm	(1")
22 mm	(7/8")	125 mm x 140 mm	(5" x 5 1/2")	36 mm	(1 1/16")
25 mm	(1")	165 mm x 165 mm	(6 1/2" x 6 1/2")	41 mm	(1 5/8")
29 mm	(1 1/8")	165 mm x 165 mm	(6 1/2" x 6 1/2")	39 mm	(1 9/16")
35 mm	(1 3/8")	170 mm x 170 mm	(6 3/4" x 6 3/4")	45 mm	(1 3/4")
38 mm	(1 1/2")	175 mm x 175 mm	(7" x 7")	45 mm	(1 3/4")
41 mm	(1 5/8")	175 mm x 175 mm	(7" x 7")	45 mm	(1 3/4")



## 15° Precast Half Hanger (PHFRL-H) and (PHHFRL-H)

Precast Half Hangers PHFRL-H/PHHFRL-H are fabricated with a 1/2" (13mm) dia. 15° HFRL end clip and are designed to be cast into the top of a concrete girder. Available in standard and heavy configurations.

### Safe Working Load

3.5M	Standard	15.6 kN (3,500 lb)
6M	Heavy Duty	26.7 kN (6,000 lb)
10M	3/4" System	45.0 kN (10,000 lb)

@ Approximate 2:1 Safety Factor

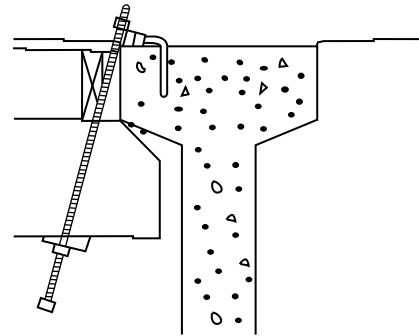
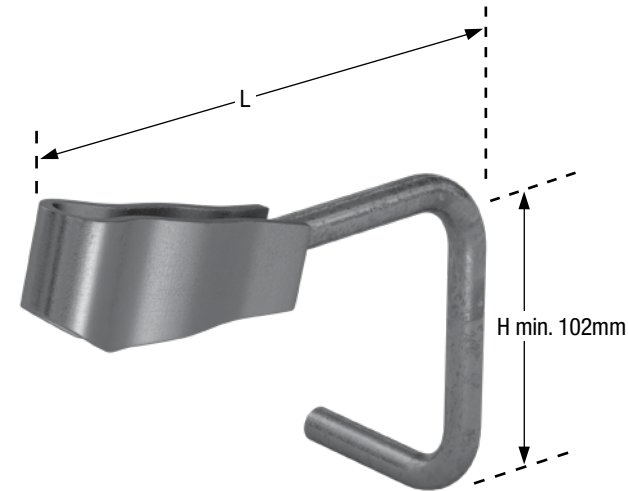
For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	PRODUCT NAME	COATING
Example	200	PHFR-H STD.	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

NB. Precast Hangers can be Made to Custom Lengths Upon Request.



\*Embedment height measured from bottom of horizontal strut wire to bottom of hook wire, as illustrated on the image above.

## Tyloop Hanger (TLH/HTLH)

Tyloop Hangers TLH/HTLH consist of two 13mm (1/2") nominal diameter Tyloops and 13mm (1/2") diameter lagstud (top bar) with two washers and Lagnuts. The Tyloops are bolted to the soffit on the ground, prior to installation, using the cut washers to maintain 3mm (1/8") setback. This assembly is then fitted in place and the top bolt slipped through the loops over top of the beam flange. This eliminates the need for workers to be under the soffit engaging the Lagstud.

### Safe Working Load

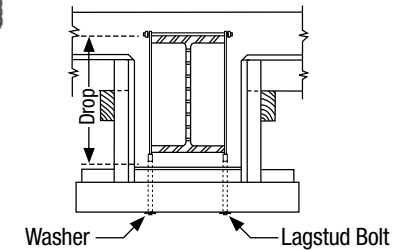
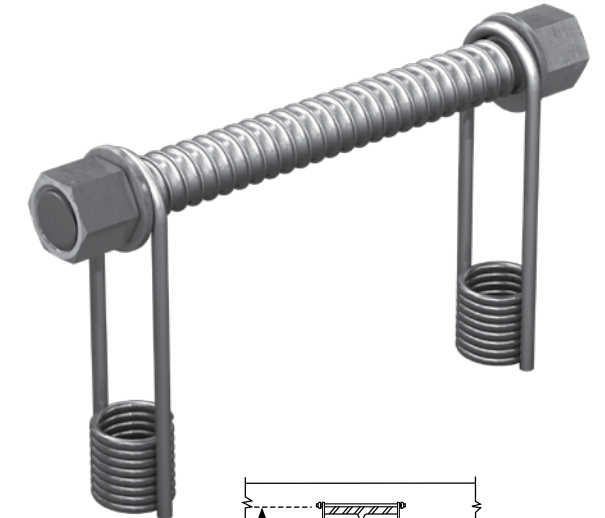
2.25M	Standard	10.0 kN (2,250 lb)
4.5M	Heavy Duty	20.0 kN (4,500 lb)

@ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	FLANGE WIDTH	DROP	PRODUCT WIDTH	COATING
Example	200	300mm (12")	300mm (12")	TLH STD	EP

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG).



## TyHanger (HTH-N)

TyHanger HTH is a Tyscru type hanger bent to fit over the top flange of a beam. Coils may be flush with the soffit, against a cut washer for a 3mm (1/8") setback or manufactured as required for proper setback. Principal use is for hanging medium to heavy slabs and fireproofing forms for structural steel.

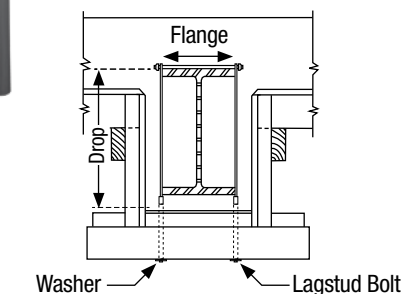
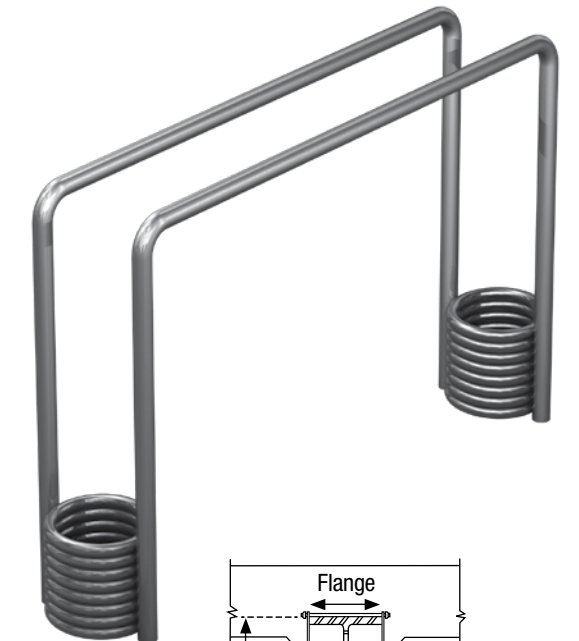
### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	FLANGE WIDTH	DROP	PRODUCT NAME	DIAMETER
Example	200	300mm (12")	300mm (12")	HTH	300mm (12")
SPECIFY	SAFE LOAD	COATING			
Example	4,500 lb	EP			

\*Available in Plain Steel (B), Electro Plated (EP).

Diameter	Safe Load*	Approx. Ult Strength*	Min. Coil Penetration
mm (in.)	KN (lbs)	KN (lbs)	mm (in.)
13 (1/2)	20.0 (4,500)	41.7 (9,375)	38 (1-1/2)
13 (1/2)	33.4 (7,500)	69.9 (15,715)	45 (1-3/4)
19 (3/4)	50.0 (11,250)	103 (23,225)	45 (1-3/4)
25	66.7 (15,000)	154 (34,530)	57 (2-1/4)

\*On Complete Assembly.



## Adjustable Joist Hanger (HJB)

Adjustable Joist Hanger HJB is reusable. The HJB hanger is sized to accept all common joist sizes with up to 9" (230mm) adjustment. Also use the same system or decks on steel, precast girders and box culverts. By eliminating stringers, typical deck will require 50% to 70% less lumber than most conventional decking system. HJB are fully adjustable and adaptable to concrete beams, steel girders and box culvert.

### Safe Working Load

13.4 kN (3,000 lb)

@ Approximate 2:1 Safety Factor

### INFORMATION REQUIRED TO ORDER

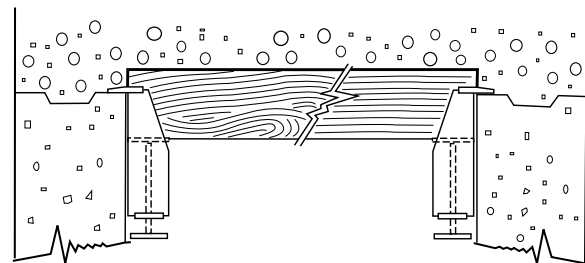
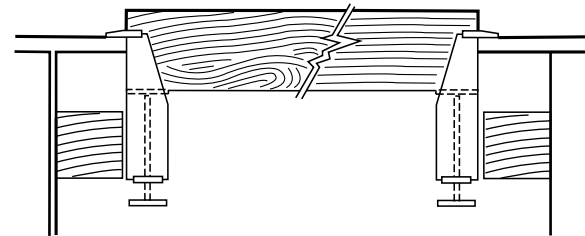
SPECIFY	QUANTITY	PRODUCT NAME
Example	200	HJB

\*Available in Plain Steel (B).

### GENERAL INFORMATION

To obtain spacing for AR's Adjustable Joist Hanger, calculate the concrete and form load for the given span for (1) lineal foot and add 75lb (3.6 kPa) per square foot live load allowance. Divide this loading by the safe working load of the Hanger (3,000 lb) multiplied by 2, since two hangers will support the given span. The resulting spacing, however, may be limited by the strength of the lumber used. See Adjustable Joist Hanger Spacing Chart.

\*Upon request, the AR Technical Department will, design the forming and spacing of AR's Adjustable Joist Hangers for particular deck pours as long as the contract drawings are provided.



## Adjustable Joist Hanger (HJB)

### Adjustable Joist Hanger Spacing Chart

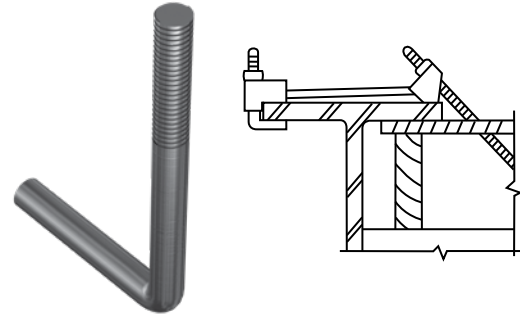
This chart can be used to determine the allowable Adjustable Joist Hanger spacing by knowing the maximum clear span and the slab thickness. Pressure is based on 150lb (23.8kN/m<sup>3</sup>) per cubic foot concrete (normal weight) and 75lb (3.59 kPa) per square foot live load.

Slab Thickness	Pressure	Joist Lumber	CLEAR SPAN					
			1.5 m (5'-0")	1.8 m (6'-0")	2.1 m (7'-0")	2.4 m (8'-0")	2.7 m (9'-0")	3.0 m (10'-0")
Joist Spacings based on 3/4" (19mm) plywood in. (mm)								
102 mm (4")	6.0 kPa (125 psf)	2 x 6	21(533)	15(381)	11(279)	8(203)	7(177)	5(127)
		2 x 8	23(584)	23(584)	19(482)	14(355)	11(279)	9(288)
		2 x 10	23(584)	23(584)	23(584)	23(584)	19(482)	15(381)
127 mm (5")	6.6 kPa (138 psf)	2 x 6	19(482)	13(330)	10(254)	8(203)	6(152)	---
		2 x 8	22(558)	22(558)	17(431)	13(330)	10(254)	8(203)
		2 x 10	22(558)	22(558)	22(558)	21(533)	17(431)	13(330)
152 mm (6")	7.2 kPa (150 psf)	2 x 6	18(457)	12(304)	9(228)	7(177)	5(127)	---
		2 x 8	21(533)	21(533)	16(406)	12(304)	10(254)	8(203)
		2 x 10	21(533)	21(533)	21(533)	20(508)	15(381)	12(304)
178 mm (7")	7.8 kPa (163 psf)	2 x 6	16(406)	11(279)	8(203)	6(152)	5(127)	---
		2 x 8	20(508)	20(508)	15(381)	11(279)	9(228)	7(177)
		2 x 10	20(508)	20(508)	20(508)	18(457)	14(355)	1(279)
203 mm (8")	8.4 kPa (175 psf)	2 x 6	15(381)	11(279)	8(203)	6(152)	---	---
		2 x 8	19(482)	18(457)	13(330)	10(254)	8(203)	6(152)
		2 x 10	19(482)	19(482)	19(482)	17(431)	13(330)	10(254)
229 mm (9")	9.0 kPa (188 psf)	2 x 6	14(355)	10(254)	7(177)	6(152)	---	---
		2 x 8	18(457)	17(431)	13(330)	10(254)	7(177)	6(152)
		2 x 10	18(457)	18(457)	19(482)	16(406)	12(304)	10(254)
254 mm (10")	9.8 kPa (200 psf)	2 x 6	13(330)	9(228)	7(177)	5(127)	---	---
		2 x 8	18(457)	16(406)	12(304)	9(228)	7(177)	5(127)
		2 x 10	18(457)	18(457)	18(457)	15(381)	12(304)	9(228)

NB. If clear span is not an even foot, use the next higher foot on the chart. Plywood deflection limited to L/360", up to 1/16". Joist deflection limited to L/360" up to 1/4". Shade area denotes span limited by Joist material. Spacings shown are based on lumber and hanger capacity. Always check local codes for compliance when determining joist spacing.

## “J” Bolt

“J”Bolts are used primarily to achieve a “dead man” forming condition with AR’s Ty-Back Hanger, as shown in the application sketch. “J”Bolts are available in 13mm (1/2”) dia. and in lengths as required (beam flange thickness plus grip).



### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	LENGTH	PRODUCT NAME	COATING
Example	200	101mm (4”)	“J” Bolt	HDG

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)  
NB. Care must be taken to ensure that the “J” Bolt is positioned perpendicular to the beam flange.

## Lagstud Bolt (LAG-A)

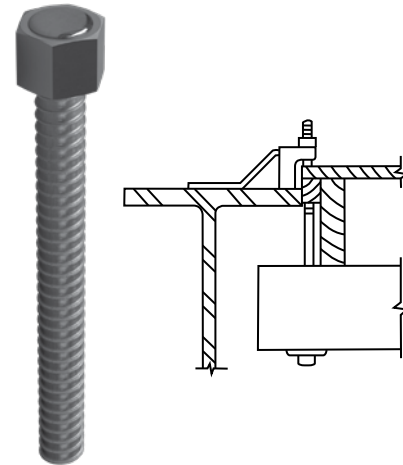
Lagstud Bolt LAG-A is a lagstud with a welded lagnut. Available in lengths 25mm (1” increments) and diameter as required 13mm, 20mm (1/2”, 3/4”).

### Safe Working Load

7M	1/2” System	31.1 kN (7,000 lb)
18M	3/4” System	80.0 kN (18,000 lb)

@ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.



### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	LENGTH	PRODUCT NAME	COATING
Example	200	13mm (1/2”)	300mm (12”)	13mm (1/2”) LGA-A	EP
Example	200	20mm (3/4”)	300mm (12”)	20mm (3/4”) LGA-A	EP

\*Available in Plain Steel (B), Electro Plated (EP) and Hot Dip Galvanized (HDG)

## Adjustable Lagstud Bolt (LAG-AN)

Adjustable Lagstud Bolt LAG-AN consists of a continuous lagstud with one welded lagnut and one free running lagnut. Available in the nominal diameters and lengths as shown in the chart. These units are especially adaptable to bridge decks where one size Adjustable Lagstud Bolt may serve several bolt length requirements.

### Safe Working Load

7M	1/2” System	31.1 kN (7,000 lb)
18M	3/4” System	80.0 kN (18,000 lb)

@ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.



### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	LENGTH	PRODUCT NAME	COATING
Example	200	13mm (1/2”)	300mm (12”)	13mm (1/2”) LGA-A	EP
Example	200	20mm (3/4”)	300mm (12”)	20mm (3/4”) LGA-A	EP

NOMINAL DIAMETER	LENGTH
(1/2”, 3/4”)	610mm (24”)
(1/2”, 3/4”)	762mm (30”)
(3/4”)	914mm (36”)

## Continuous Threaded Lagstud (LAG-CT)

Continuous Threaded Lagstud LAG-CT is manufactured from high quality steel in precut lengths in a variety of sizes from stock. This versatile product can be used for tying or hanging applications where various lengths of bolts are required.

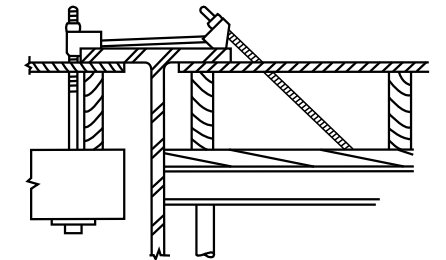


### Safe Working Load

7.5M	1/2” Standard	33.3 kN (7,500 lb)
9M	1/2” High Tensile	40.0 kN (9,000 lb)
18M	3/4” System	80.0 kN (18,000 lb)

@ Approximate 2:1 Safety Factor

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.



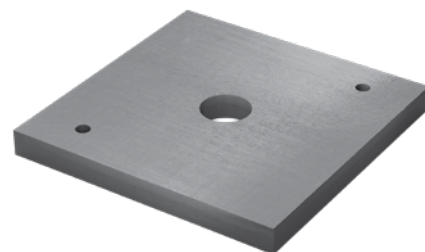
### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	LENGTH	PRODUCT NAME
Example	200	13mm (1/2”)	300mm (12”)	13mm (1/2”) LAG-CT, MS
Example	200	13mm (1/2”)	300mm (12”)	13mm (1/2”) LAG-CT, HT
Example	200	13mm (1/2”)	300mm (12”)	20mm (3/4”) LAG-CT, HT

\*Available in Plain Steel (B)

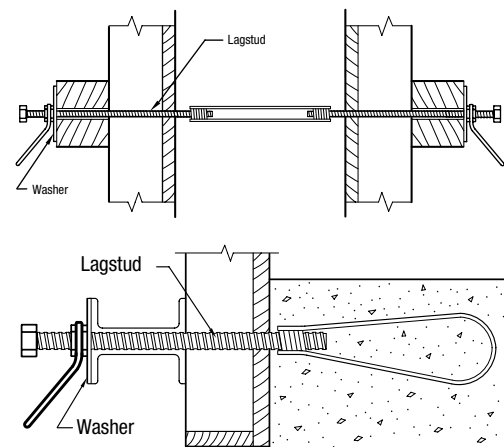
## Flat Washer (TWF)

Flat Washers TWF are made from flat steel plate and are available in sizes shown in the chart. For best results the gap (space spanned by the washer) should not exceed the physical bolt diameter plus 1/4" (6mm).



INFORMATION REQUIRED TO ORDER				
SPECIFY	QUANTITY	LAGSTUD DIA.	DIMENSION	PRODUCT NAME
Example	200	1/2"	3 3/4" x 3 3/4" (95x95)	TWF

\*Available in Plain Steel (B)



Bolt Diameter		Plate Size		Hole Size	
in	(mm)	in	(mm)	in	(mm)
1/2	(13)	3 3/4 x 3 3/4 x 1/4	(95 x 95 x 6)	9/16"	(14 mm)
3/4	(20)	5 x 5 x 3/8	(125 x 125 x 10)	13/16"	(21 mm)
3/4	(20)	6 x 6 x 1/2	(150 x 150 x 13)	13/16"	(21 mm)
1	(25)	5 x 5 x 3/8	(150 x 150 x 10)	1 1/16"	(27 mm)
1	(25)	6 x 6 x 1/2	(150 x 150 x 13)	1 1/16"	(27 mm)
1 1/4	(32)	6 x 6 x 1/2	(150 x 150 x 13)	1 3/8"	(35 mm)
1 1/4	(32)	8 x 8 x 3/4	(200 x 200 x 19)	1 3/8"	(35 mm)

Contact AR Technical Department for details.

### Safe Working Load - Imperial Measures

Bolt Dia.	Plate Size	DISTANCE BETWEEN WALER									
		1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"
(1/2")	(3 3/4" x 3 3/4" x 1/4")	6,750 lbs	3,750 lbs	2,500 lbs	1,900 lbs	1,600 lbs		1,100 lbs			
(3/4")	(5" x 5" x 3/8")		25,000 lbs	14,000 lbs	9,000 lbs	7,000 lbs	5,600 lbs		4,000 lbs		
(3/4")	(6" x 6" x 1/2")		60,000 lbs	33,000 lbs	22,000 lbs	16,000 lbs	13,500 lbs		9,600 lbs		
(1")	(5" x 5" x 3/8")			38,000 lbs	38,000 lbs	24,000 lbs	18,000 lbs	14,000 lbs		10,000 lbs	
(1")	(6" x 6" x 1/2")			38,000 lbs	38,000 lbs	24,000 lbs	18,000 lbs	14,000 lbs		10,000 lbs	
(1 1/4")	(6" x 6" x 1/2")				37,000 lbs	37,000 lbs	27,000 lbs	19,000 lbs	15,000 lbs		10,000 lbs
(1 1/4")	(8" x 8" x 3/4")				125,000 lbs	125,000 lbs	91,000 lbs	65,000 lbs	50,000 lbs		35,000 lbs

(1 1/2") Contact AR Technical Department for details.

### Safe Working Load - Metric Measures

Bolt Size	Plate Diameter (mm)	DISTANCE BETWEEN WALER									
		25 mm	32 mm	35 mm	45 mm	50 mm	57 mm	63 mm	70 mm	75 mm	82 mm
13	95 x 95 x 6	30 kN	16 kN	11 kN	8.5 kN	7.1 kN		4.9 kN			
20	125 x 125 x 10		111 kN	62 kN	40 kN	31 kN	25 kN		18 kN		
20	150 x 150 x 13		266 kN	146 kN	98 kN	71 kN	60 kN		43 kN		
25	125 x 125 x 10			169 kN	169 kN	106 kN	80 kN	62 kN		45 kN	
25	150 x 150 x 13			169 kN	169 kN	106 kN	80 kN	62 kN		45 kN	
32	150 x 150 x 13				165 kN	165 kN	120 kN	85 kN	66 kN		45 kN
32	200 x 200 x 19				555 kN	555 kN	405 kN	290 kN	220 kN		155 kN

38 Contact AR Technical Department for details.

System load reduction from increased waler spacing.

## Lag Nut (BHN) & Coil Nut (BHNS)

Lag Nut BHN is manufactured with Lag thread and is used with Lagstud, Adjustable Lagstud Bolt and "J" Bolt to support bridge deck forming. Available in all Lagstud sizes.

BHN	Diameter	# Nuts	Safe Working Load
	13mm (1/2")	1	40.0 kN (9,000 LBS)
	20mm (3/4")	1	80.0 kN (18,000 LBS)
	25mm (1")	1	160.0 kN (37,000 LBS)

BHNS	Diameter	# Nuts	Safe Working Load
	13mm (1/2")	1	26.7 kN (6,000 LBS)
	13mm (1/2")	2	40.0 kN (9,000 LBS)
	25mm (1")	1	40.0 kN (9,000 LBS)
	20mm (3/4")	2	80.0 kN (18,000 LBS)
25mm (1")	1	80.0 kN (18,000 LBS)	
25mm (1")	2	167.0 kN (37,500 LBS)	

### Safe Working Load

@ Approximate 2:1 Safety Factor

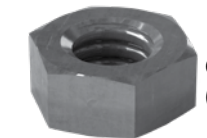
#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	PRODUCT NAME
Example	200	13mm (1/2")	13mm (1/2") BHN

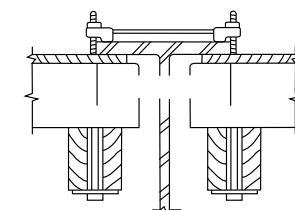
\*Available in Plain Steel (B)



Lag Nut (BHN)



Coil Nut (BHNS)



## Handle Lag Nut (NHL)

Handle Lag Nut (NHL) is fabricated by welding a substantial wire loop to a Lag Nut. The handle eliminates the need of a wrench to tighten the nut and makes installation and stripping of the formwork easier and quicker. Available in all Lagstud sizes.

### Safe Working Load

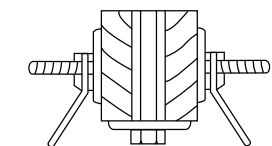
9M 1/2" System 40.0 kN (9,000 lb)  
18M 3/4" System 80.0 kN (18,000 lb)

@ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	PRODUCT NAME
Example	200	13mm (1/2")	13mm (1/2")-NHL
Example	200	20mm (3/4")	20mm (3/4") LAG-CT, HT

\*Available in Plain Steel (B)



## Wingnut

AR Wing Nuts are manufactured with a lag thread and are used with AR She-Bolts or Taper-Tys. Fabricated in 20 mm, 25 mm and 32 mm (3/4", 1" and 1 1/4") diameters.

### Safe Working Load

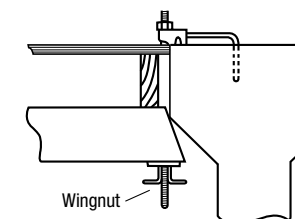
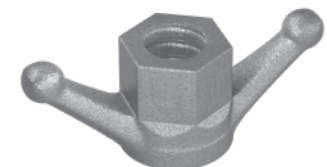
10M 1/2" System 45.0 kN (10,000 lb)  
18M 3/4" System 80.0 kN (18,000 lb)

@ Approximate 2:1 Safety Factor

#### INFORMATION REQUIRED TO ORDER

SPECIFY	QUANTITY	DIAMETER	PRODUCT NAME
Example	200	13mm (1/2")	13mm (1/2")-LTLH
Example	200	20mm (3/4")	20mm (3/4")-LTLH

\*Available in Plain Steel (B)



Wingnut

For hanger loads greater than 26 kN (6000 lb), AR recommends the use of bearing plates under hanger end clips on concrete girders. Please contact AR technical department for 12M and 18M hangers or for greater loads than shown in the catalogue.



## Hi-Chair Support - Type A300 Void Loop Hold Down Unit

A300 Void Loop Hold Down Unit is designed for use with steel strapping as an effective method to keep tubes positioned during pouring operations.

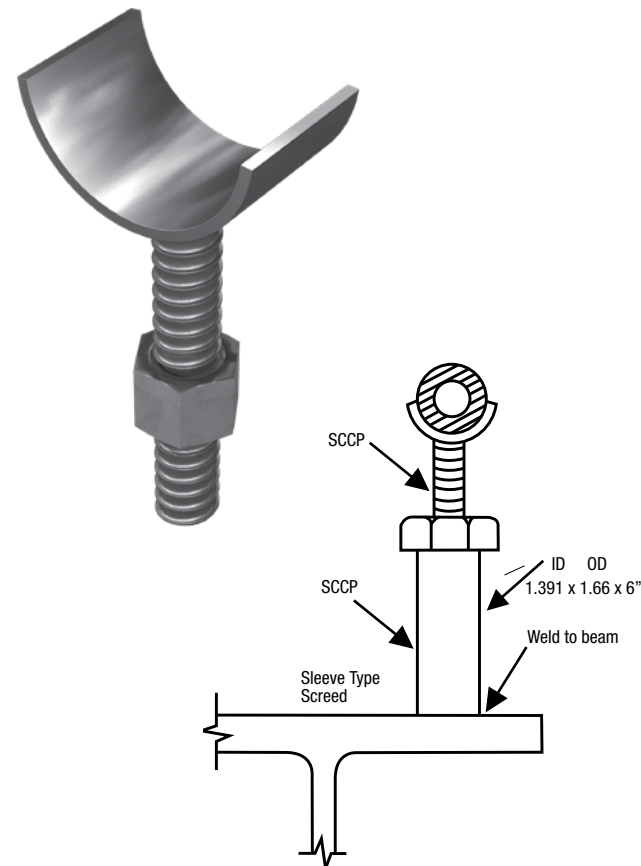
### VOID SUPPORT AND TY-DOWN

Corrugated Metal Voids O.D. (mm)	Max. Allowable Tie Down Spacing	Max. Allowable Chair Spacing	Uplift Apprx. kg/m	REQUIRED HOLD DOWN
254 to 457	1524	1524	520	One hold down in centre
483 to 610	1372	1524	860	
635 to 702	1219	1524	1200	
787 to 914	1067	1524	1670	2 hold downs one on each side of void
940 to 1067	914	1524	2140	
1092 to 1219	686	1524	2800	
1220 to 1250	647	1524	2950	



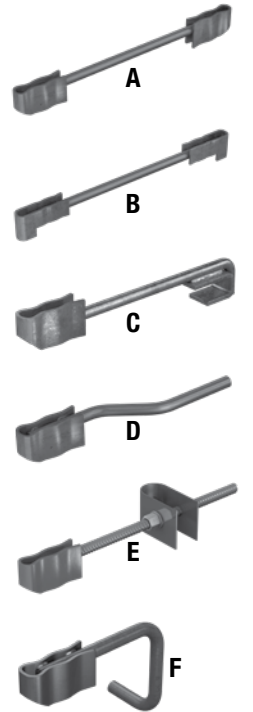
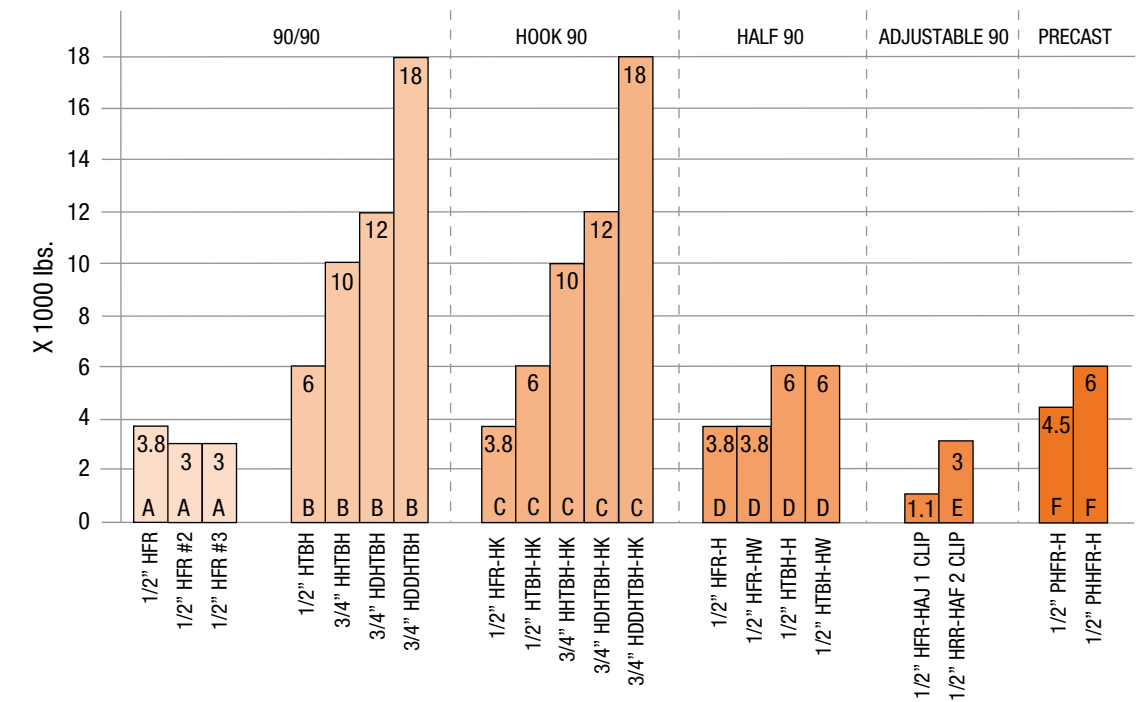
## AR Adjustable Screenshot Supports

AR Adjustable Screenshot Chairs are designed to support the pipe or T-bars without deflection under heavy loads and are stable enough to withstand the screeding action. They can be used for hand screeds, vibratory screeds, and have been adapted for heavy power screeds. Spans up to 10,000mm have been screeded with these devices. Other Configuration of screen and support products available on request.

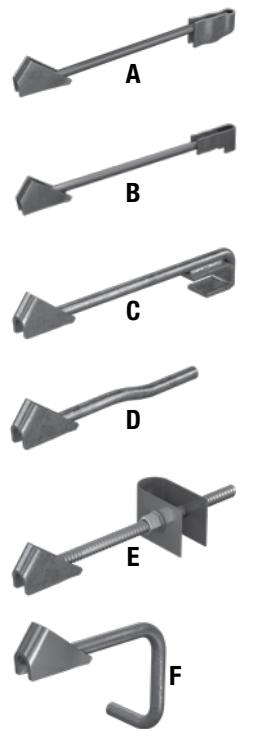
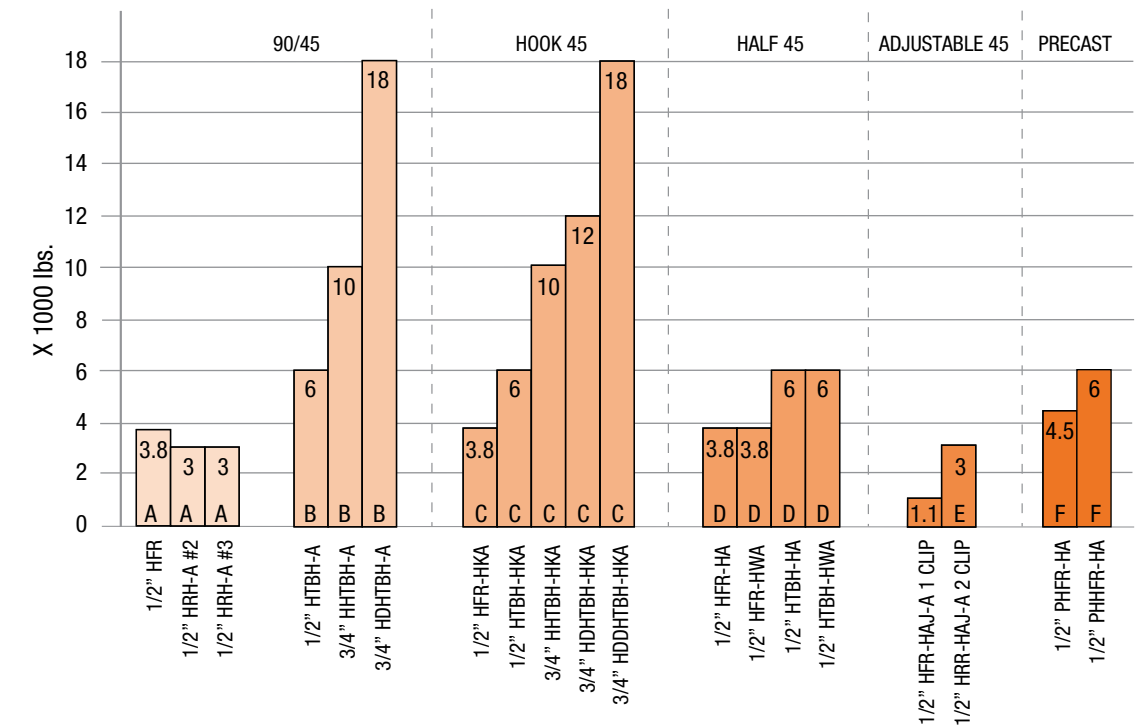


## Interior / Exterior Hangers

### INTERIOR SAFE WORKING LOAD @ Approximate 2:1 Safety Factor



### EXTERIOR SAFE WORKING LOAD @ Approximate 2:1 Safety Factor







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