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TOTAL BRACING SYSTEM

CONCRETE CONSTRUCTION SOLUTIONS

BROCHURE



A Total Bracing System



An integrated, in-line total bracing system designed to decrease labor costs and increase project efficiency.

The Accubrace[®] Total Bracing System is designed for rapid installation and the ability to immediately load the helical ground anchor for unsurpassed speed and efficiency on any tilt-up or precast project. Bracing products are warehoused at regional offices and can quickly be transported to job sites.

Custom braces can also be designed and manufactured to meet any project application.

Dayton Superior provides safe engineered solution by installing helical ground anchors and renting necessary components.

FEATURES AND BENEFITS:

- <u>Helical Ground Anchors</u> are engineered alternative to concrete deadmen and/or floor slabs reducing the associated time and labor costs
- Rapid, all-weather brace installation immediate loading when used with the helical ground anchor
- Remove and relocate ground anchors if installation of braces requires adjustment
- Anchor location is adaptable can be installed inside or outside of structure
- Bracing on the outside of wall simplifies structural steel erection especially in multi-story buildings
- Bracing on the inside of wall eliminates holes in floor slab and vapor barrier
- Integrated in-line connection to the brace utilizing a <u>Helical Ground Anchor (HGA) and Transition</u> <u>Brace Connector (STBC)</u>
- Dayton Superior offers Professional Engineer review and stamp services
- Removable and reusable
- HGA can be used with any type of brace
- Reduces the number of braces needed if HGAs used with high capacity braces

Components



Overview

Accubrace hardware connectors for braces and helical ground anchors serve as load transfer mechanisms. These connectors are an integral part of the total bracing system.

WARNING: Welding, cutting, or any modification to the HGA, STBC connector, brace, or components is strictly prohibited.

Helical Ground Anchors and HGA Extensions

- Helical Ground Anchors are engineered alternative to concrete deadman and/or floor slabs
- Dayton Superior installs, removes, and rents HGAs, and provides documentation for each HGA installed
- A geotechnical review prior to the installation date is recommended, and included with the service
- Contractor is responsible for preparing the HGA layout prior to crew arrival
- Certain sites with lower strength foundation soils may require HGA Extensions.





W Brace connection height above bottom of panel

Panel height

Helical

Ground Anchor

(HGA)

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- X HGA Mark Horizontal distance from panel face
- G HGA elevation +/- relative to panel bottom

HGA

Extension

Image: Constant of the consta







Transition Brace Connectors and Braces



Brace Connector

The Standard Transition Brace Connector (STBC)

- STBC quickly connects the brace to the HGA with center-line alignment
- Use ⁵/₈" Grade 8 L Pin to connect STBC to brace and 3/4" Grade 8 L Pin to connect STBC to HGA
- Alternative Method: use ⁵/₈" full shoulder Grade 8 bolt with locking nut to connect STBC to brace and ³/₄" full shoulder Grade 5 bolt with locking nut to connect STBC to HGA

Braces

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HGA can be used with any Dayton Superior brace.



(Above and Below) Standard Transition Brace Connector, Alternate Method

Square	e Braces
	Drog

New Brace Name	Former Brace Name	Outside Dim.	Std. Brace Length	Brace Length Min.	Brace Length Max	Ultimate Load** (Lbs)	Brace Weight* (Lbs)
B21R23S	B21F	4.0"	21'	21'-0"	23'-3"	23,250	230
B27R36S	B27BF	5.0"	27'	25'-7"	27'-3"	36,000	350
B32R24S	B32F	5.0"	32'	30'-9"	33'-3"	24,375	405
B33R22S	B33F	5.0"	33'	31'-9"	34'-3"	22,500	410

*Does not include weight of connectors. **Ultimate Load based on adequate brace to HGA or slab connection.

New Brace Name	Former Brace Name	Product Description	Ultimate Load* (lbs)	Brace Weight (lbs)
Superior 5-8	BO	5'-0" to 8'-0"	10,000	60
Superior 8-14	B1A	8'-0" to 14'-0"	9,750-5,625	87
Superior 14-23	B4	14'-6" to 23'-6"	9,750-2,525	130
Superior 22-30	B5	22'-6" to 30'-10"	8,962-2,025	208
Superior 17	B7	17'-0" Fixed Length	13,050	107
Superior 22	B8	22'-0" Fixed Length	9,750	130
Superior 22+5	В9	22'-0" Fixed Length + 5'-0" Extension Pipe	7,200	172
Superior 22+10	B10	22'-0" Fixed Length + 10'-0" Extension Pipe	5,400	193
Superior 32	B12A	32'-0" Fixed Length	13,500	245
Superior 33 HD	B17S	33'-0" Fixed Length (Large Diameter HD Pipe)	25,000	489
Superior 32+5	B16	32'-0" Fixed Length + 5'-0" Extension Pipe	12,000	360
Superior 32+10	B14	32'-0" Fixed Length + 10'-0" Extension Pipe	7,800	382
Superior 32+10+10	B15	32'-0" Fixed Length + (2) 10'-0" Extension Pipe	5,700	410
Superior 42	B17A	42'-0" Fixed Length	19,000	613
Superior 52	B18	52'-0" Fixed Length	19,200	984
Superior 62**	B20	52'-0" Fixed Length + 10'-0" Extension Pipe	17,000	1,275





Notes: Field assembly is required for Superior 32+10 (B14), Superior 32+10+10 (B15), and Superior 62 (B20) braces. Fixed length allows for +/-9" of adjustment except Superior 42 (B17A) brace has +/-7.5" of adjustment. Pipe Extensions: T15 for the Superior 22 (D0) media and T20 (metha Superior 22 (D12)) (B8) model and T20 for the Superior 32 (B12) model. *Ultimate Load based on adequate brace to HGA or slab connection. **Not available for rental

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Wall Panel Connection



Brace-to-Wall Panel Connection:

- Standard Wall and Floor Plate Braces - standard on most round braces
- Two-hole wall plate for higher loads • - standard on B11 and B18 braces
- Optional four-hole AWPP1 foot plate •
- Use T13 post installed brace anchor or • T6A, T6S, T5A, T5A HVY brace inserts to connect wall plates to wall panels





Standard Wall and Floor Plate Bracket



Two-Hole Foot Plate Bracket



PCN	Description	SWL	Length
139721	Standard HGA (1-1/2" Square Bar with 10" Helical Plates)	12,000 lbs	7'-0"
139718	Std. HGA Extension (1-1/2" Square Bar with 10" Helical Plates)	15,000 lbs	4'-0"
139722	Standard Transitional Brace Connector (STBC)	15,000 lbs	
100221	Twin Standard Transitional Brace Connector (STBC)	15,000 lbs	
122514	Standard Wall and Floor Plate Bracket		
100068	Single-Hole Wall and Floor Plate Bracket for B42R19R (B17A)		
121954	Two-Hole Wall and Floor Plate Bracket for BA2540R (B11) and Accubrace Braces		
146283	Two-Hole Wall and Floor Plate Bracket for B52R19R (B18) braces		
139717	Four-Hole Wall and Floor Plate (AWPP1) - optional		
49206	T13 Coil-Anchor with Tang (3/4" x 4-1/2")		
123045	T13 Coil-Anchor with Tang (3/4" x 6")		

NOTES: When an extension is used, the working load of the HGA increases to 15,000 lbs for the installed torque of 2,200 ft-lb

Safe Working Load is based on 2:1 Safety Factor





Transitional Brace Connector Installation

Installation:

- 1. REMOVE the brace shoe.
- 2. Use the approved Dayton Superior Standard Transitional Brace Connector (STBC).
- 3. Attached STBC to the brace using 5/8" Grade 8 L pin with locking cotter pin or 5/8" Grade 8 bolt with locking nut.
- 4. Attach STBC to HGA using 3/4" Grade 8 L pin with locking cotter pin or 3/4" Grade 5 bolt with locking nut.





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Steps for a Successful Installation

- Provide Dayton Superior with least five business days notice to mobilize its equipment and crews to the project site.
- A Geotech review prior to the installation date is recommended, and included with the service.
- Please note that a Geotech report covers less than 1% of the project foot print, and is only an indication of soil conditions. Unfavorable conditions are always a possibility.
- Contractor is responsible for preparing the HGA layout prior to crew arrival. Layout includes:
 - Marking the horizontal distance from the panel face to the HGA location.
 - Minimum 3' clearance from top of HGA to casting slab or *other* obstacle.
- Contractor to advise Dayton Superior representative of any changes to panel book HGA elevations.
- Contractor is responsible for location of any underground utilities. Any subsurface structure or utility near the anchor locations shall be clearly marked.

WARNING: Installation of anchors underneath utilities or subsurface structures is strictly prohibited.

- HGA marks need to be free of debris and accessible by a skid steer.
- The contractor is to undergo preventive measures to mitigate soil erosion adjacent to installed anchors.
- Contractor is responsible for lost and damaged HGA. Dayton Superior recommends flagging the HGAs when the braces have been removed to avoid damage and loss.
- Dayton Superior needs the cell phone number and/or email address for the onsite Superintendent. Dayton Superior will confirm with on-site Superintendent the day prior to the HGA installation
- Dayton Superior will coordinate the arrival of the HGAs and/or braces with the on-site Superintendent as third-party shipping is the normal delivery method.
- Dayton Superior will band the HGAs as they are removed, and load if the contract carrier is available. If not available, will stack as directed by onsite Superintendent.
- If braces are supplied with the HGAs, contractor is responsible for properly stacking braces for the return transportation.







DAYTON SUPERIOR

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