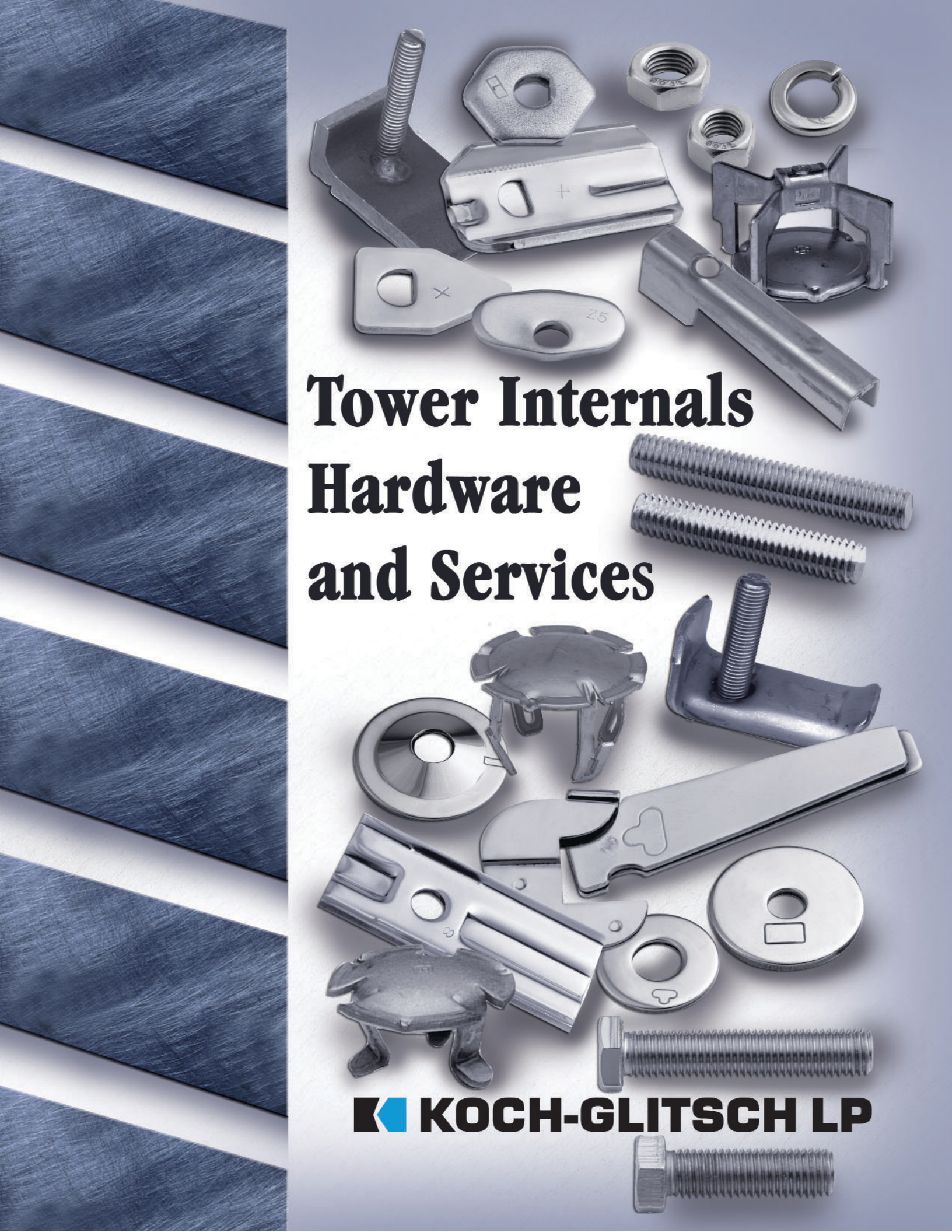




Tower Internals Hardware and Services

 **KOCH-GLITSCH LP**

KOCH-GLITSCH — THE COMPANY THAT IS CONSTANTLY REINVENTING ITSELF TO MEET YOUR HARDWARE NEEDS!

REPLACEMENT SERVICES



Our experience as a global leader providing services to the hydrocarbon processing industry has taught us that we cannot wait for the future. We're inventing it.

That is why, once again, Koch-Glitsch has re-engineered itself to meet your needs for the competitive years ahead. We have expanded our capabilities to bring you

quality products and the most comprehensive services to help you reduce costs and shorten time spent during scheduled maintenance turnarounds and emergency shutdowns.

The following pages describe our new services and provide a catalog of our extensive line of hardware.

ALWAYS THERE WHEN YOU NEED US!

Koch-Glitsch, LP Response Teams, strategically located and as close as your phone, are ready 24 hours a day, 7 days a week, including holidays, to respond to your emergency needs. Help is only a phone call away for mechanical design expertise during shutdowns, to man hardware trailers and perform inspection services.



REPLACEMENT
SERVICES

GOOD-BYE GUESSWORK!

Automated Hardware Ordering Program (AHOP™)... Say good-bye to tray hardware nightmares during turnarounds. Our innovative computerized program takes the guesswork out of what is inside your towers before you open them. This free research service is custom tailored to your tower hardware, providing a report that details all the hardware contained in your towers for both Koch-Glitsch and non-Koch-Glitsch equipment. We also provide recommendations for hardware required during routine turnarounds.



WE'RE RIGHT BESIDE YOU!

Hardware Trailers and Lockers, filled with all the hardware items you need, can come right to your site and stay with you during your maintenance turnarounds. No more wasted time as a result of unexpected hardware needs. And, if you choose, you can have your trailer manned with a Koch-Glitsch tower internals expert.



STRATEGICALLY LOCATED WAREHOUSES!

REPLACEMENT
SERVICES



Our numerous warehouse locations make shipping faster and easier:

- | | |
|----------------------|---------------------------|
| ● Benicia, CA | ● Buenos Aires, Argentina |
| ● Wichita, KS | ● Arles, France |
| ● Baton Rouge, LA | ● Aprilia, Italy |
| ● Houston, TX | ● Kirkby Stephen, UK |
| ● Corpus Christi, TX | ● Tokyo, Japan |
| ● Uxbridge, Canada | ● Seoul, Korea |
| ● Baroda, India | |

**Our Equipment Support Service
technicians are available to you
anywhere in the world to observe
and analyze installation from
start to finish!**



At your work site, the Koch-Glitsch technician will inventory the equipment, witness each phase of the project, and provide advice on installing the equipment to Koch-Glitsch's specifications. You can count on Koch-Glitsch Equipment Support Services to carefully monitor your project from start to finish. By using an experienced technician for all phases of the installation, the project flows smoothly and your problems can be cut to a minimum.

FOR ALL YOUR HARDWARE NEEDS...

Koch-Glitsch's superior and innovative designs have made us the leading manufacturer of quality hardware items for the hydrocarbon processing industry. Because we fully understand the nuts and bolts of your business, you can count on Koch-Glitsch for all of your hardware needs including...

REPLACEMENT
SERVICES



- **BUBBLE CAPS:** As the largest manufacturer of bubble caps, Koch-Glitsch has more than 5,000 designs.
- **STOCKED HARDWARE:** Koch-Glitsch has more than 1,000 items in stock.
- **SPECIALTY HARDWARE:** We carry an extensive line of specialty hardware, such as explosion resistant designs.
- **TRAY COMPONENTS:** We can quickly fabricate and deliver decks, downcomers, beams and seal pans because we access the design from our CAD system.
- **NON-STOCKED HARDWARE:** All types available on special order.

The items we offer and their descriptions can be found on the following pages.



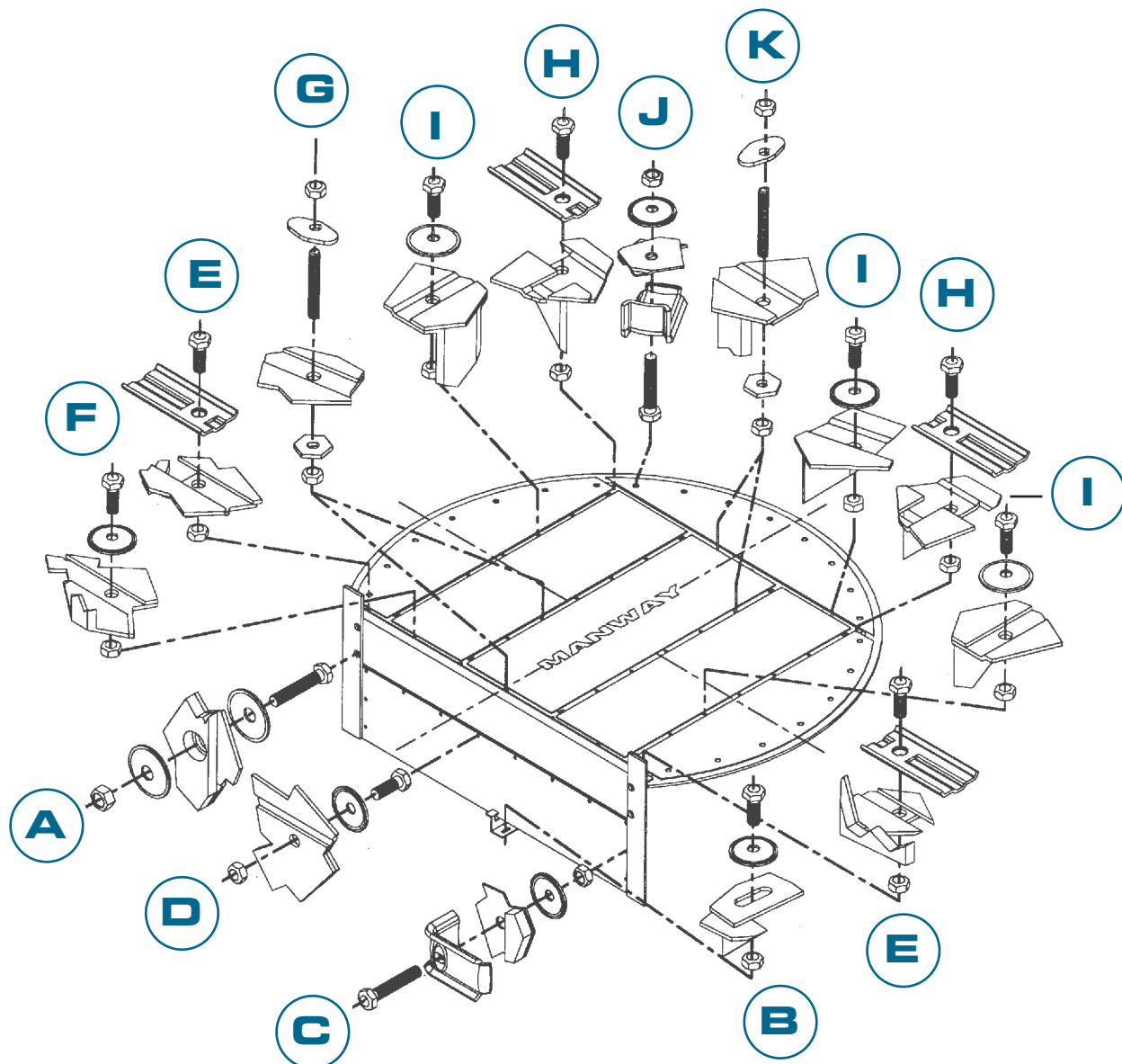
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MATERIAL SYMBOLS AND DESIGNATIONS

To avoid confusion in identifying and locating the proper material type, Koch-Glitsch die stamps its hardware with specific symbols indicating material analysis. To properly identify each item when ordering, we ask that you insert the proper material type numerical code for the material identification number (MMMM) and the abbreviated material name for the item description (Mat'l). In the example below for a Type 316L, 14 Ga. 1-3/4" Domed Washer, you would insert "361G" in the material identification number (MMMM) and "Ty-316L into the Item Description (Mat'l).

Threaded items (Bolts, Nuts, Studs, & Rods) are normally supplied in AISI specification/materials. Items are available in ASTM specification/materials on request.

GENERIC METAL TYPE

802-**MMMM** 102 Washer, Domed, **Mat'l**, 14 Ga., 7/16" id x 1-3/4" OD.

Insert Material identification number from chart below. Insert abbreviated Material name from chart below.

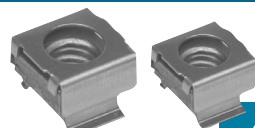
Stamped Symbol	Material Ident. (MMMM)	Abbreviated Name (Mat'l)	Common Name	Stamped Symbol	Material Ident. (MMMM)	Abbreviated Name (Mat'l)	Common Name
	100G	C.S.	Carbon Steel*		117G	Copper Silicon	Copper Silicon
	410G	Ty-410	Type 410 Stainless Steel*	EB	261G	E-Brite	E-Brite
	304G	Ty-304	Type 304 Stainless Steel	HB	864G	Hast. B	Hastelloy B-2
	340G	Ty-304L	Type 304L Stainless Steel*	HC	861G	Hast. C	Hastelloy C-276
	316G	Ty-316	Type 316 Stainless Steel	HF	868G	Hast. F	Hastelloy F
	361G	Ty-316L	Type 316L Stainless Steel*	HG	866G	Hast. G	Hastelloy G-30
	317G	Ty-317	Type 317 Stainless Steel		830G	Inconel 600	Inconel 600
	371G	Ty-317L	Type 317L Stainless Steel		625G	Inconel 625	Inconel 625
	321G	Ty-321	Type 321 Stainless Steel		820G	Incoloy 800	Incoloy 800
	347G	Ty-347	Type 347 Stainless Steel		870G	Incoloy 825	Incoloy 825
	904G	Ty-904L	Type 904L Stainless Steel		675G	Nickel	Nickel
	301G	AL-6XN	AL-6XN		600G	Monel	Monel*
	205G	2205	2205	T2	516G	Ti-Gr2	Titanium Grade 2
	840G	Alloy 20	Alloy 20 (Carpenter 20)	T7	520G	Ti-Gr7	Titanium Grade 7
A3	121G	Alum 3003	Aluminum 3003	Z2	502G	Zirc. 702	Zirconium 702
A6	119G	Alum 6061	Aluminum 6061	Z5	505G	Zirc. 705	Zirconium 705
	116G	Copr Deox	Copper Deoxide		860G	Hast.C22	Hastelloy. C22
S	635G	254 SMO	254 SMO	A5	122G	Alum 5052	Aluminum 5052
	310G	Ty-310S	Type 310 Stainless Steel		118G	AL. Bronze	Aluminum Bronze
	430G	Ty-430	Type 430 Stainless Steel		115G	Everdur	Silicon Bronze
F	660G	Ferralium	Ferralium 255				

*These materials are routinely stocked in all regional warehouses.

NOTE: The "G" represents sheet and plate material (fabricated items). In most cases, for threaded items the material code for bolts, studs, rods and nuts will have the letter "F" (340F).

891-MMMM 01	Nut, Hex, Mat'l, 3/8"-16 UNC-2B
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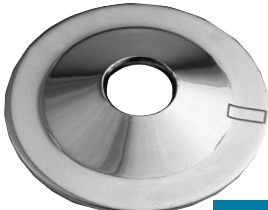
Item No.	Item Description	HEX NUTS
891-MMMM 01	Nut, Hex, Mat'l, 3/8"-16 UNC-2B	
891-MMMM 02	Nut, Hex, Mat'l, 1/2"-13 UNC-2B	
Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.		891

Item No.	Item Description	CAGED NUTS
893-MMMM 21	Nut, Caged, Mat'l, for 14 Ga Tray Deck Thickness, 3/8"-16 UNC-2B	
893-MMMM 31	Nut, Caged, Mat'l, for 12 Ga or 10 Ga Tray Deck Thickness, 3/8"-16 UNC-2B	
893-MMMM 41	Nut, Caged, Mat'l, for 7 Ga or 3/16" Tray Deck Thickness, 3/8"-16 UNC-2B	
Commonly stocked in: C.S., Ty-304L, Ty-316L and Ty-410.		893

Item No.	Item Description	HEX HEAD BOLTS
896- MMMM 1104	Bolt, Hex. Head, Mat'l , 3/8"-16 UNC-2A x 1" LG	
896- MMMM 1106	* Bolt, Hex. Head, Mat'l , 3/8"-16 UNC-2A x1-1/2" LG	
896- MMMM 1108	Bolt, Hex. Head, Mat'l , 3/8"-16 UNC-2A 2" LG	
896- MMMM 1112	Bolt, Hex. Head, Mat'l , 3/8"-16 UNC-2A x 3" LG	
896- MMMM 0106	Bolt, Hex. Head, Mat'l , 1/2"-13 UNC-2A x 1-1/2" LG	
896- MMMM 0108	Bolt, Hex. Head, Mat'l , 1/2"-13 UNC-2A x 2" LG	
896- MMMM 0110	Bolt, Hex. Head, Mat'l , 1/2"-13 UNC-2A x 2-1/2" LG	
Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.		
*Stocked in Ty-410 Only		

Item No.	Item Description	FRICTIONAL WASHERS
800-MMMM 010801	Washer, Frictional, Mat'l, 14 Ga, 7/16" id x 1" od	
800-MMMM 030801	* Washer, Frictional, Mat'l, 10 Ga, 7/16" id x 1" od	
800-MMMM 030101	* Washer, Frictional, Mat'l, 10 Ga, 7/16" id x 1-1/2" od	
800-MMMM 030201	* Washer, Frictional, Mat'l, 10 Ga, 7/16" id x 1-3/4" od	
800-MMMM 030301	* Washer, Frictional, Mat'l, 10 Ga, 7/16" id x 2-1/4" od	
800-MMMM 020802	Washer, Frictional, Mat'l, 12 Ga, 9/16" id x 1" od	
800-MMMM 030802	* Washer, Frictional, Mat'l, 10 Ga, 9/16" id x 1" od	
Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.		
*Available in C.S.		

800

Item No.	Item Description	DOMED WASHERS
802-MMMM 101	Washer, Domed, Mat'l , 14 Ga, 7/16" id x 1-1/2" od	
802-MMMM 301	* Washer, Domed, Mat'l , 10 Ga, 7/16" id x 1-1/2" od	
802-MMMM 102	Washer, Domed, Mat'l , 14 Ga, 7/16" id x 1-3/4" od	
802-MMMM 302	* Washer, Domed, Mat'l , 10 Ga, 7/16" id x 1-3/4" od	
802-MMMM 103	Washer, Domed, Mat'l , 14 Ga, 7/16" id x 2" od	
802-MMMM 303	* Washer, Domed, Mat'l , 10 Ga, 7/16" id x 2" od	
802-MMMM 111	Washer, Domed, Mat'l , 14 Ga, 9/16" id x 1-1/2" od	
Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.		
*Available in C.S.		

802

Item No.	Item Description	SPLIT LOCK WASHERS
803-MMMM 02	Washer, Split Lock, Mat'l, 3/8"	
803-MMMM 03	Washer, Split Lock, Mat'l, 1/2"	
Commonly stocked in: C.S., Ty-304 and Ty-316.		803
Available in other materials.		

Item No.	Item Description	BOTTOM TRAY CLAMPS "Y"
902-MMMM 01	Clamp, Bottom Tray "Y", Mat'l, 1/2" Hole, 11 Ga	
902-MMMM 02	** Clamp, Bottom Tray "Y", Mat'l, 1/2" Hole, 10 Ga	
902-MMMM 03	* Clamp, Bottom Tray "Y", Mat'l, 1/2" Hole, 12 Ga	
*Commonly stocked in: Monel, Ty-304L, Ty-316L and Ty-410.		902
**Commonly stocked in: C.S.		
Bottom Tray Clamp "Y" designed for use with 1" maximum thickness supports.		

946-MMMM 101 MMMM Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 11 Ga, 3/8"-16 UNC-2A Nut, Mat'l

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

BOTTOM TRAY CLAMPS "YN"

Item No.

Item Description



946

946-MMMM 101 MMMM
946-MMMM 201 MMMM
946-MMMM 301 MMMM

Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 11 Ga, 3/8"-16 UNC-2A Nut, Mat'l
** Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 10 Ga, 3/8"-16 UNC-2A Nut, Mat'l
* Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 12 Ga, 3/8"-16 UNC-2A Nut, Mat'l

*Commonly stocked in: Monel, Ty-304L, Ty-316L and Ty-410.

**Commonly stocked in: C.S.

Bottom Tray Clamp "YN" designed for use with 1" maximum thickness supports.

BOTTOM TRAY CLAMPS "YB"

Item No.

Item Description



932

932-MMMM 011 MMMM
932-MMMM 012 MMMM
932-MMMM 017 MMMM
932-MMMM 021 MMMM
932-MMMM 022 MMMM
932-MMMM 027 MMMM
932-MMMM 031 MMMM
932-MMMM 032 MMMM
932-MMMM 037 MMMM

Clamp, Bottom Tray "YB", w/bolt, Mat'l, 11 Ga, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 11 Ga, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 11 Ga, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
** Clamp, Bottom Tray "YB", w/bolt, Mat'l, 10 Ga, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 10 Ga, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 10 Ga, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
* Clamp, Bottom Tray "YB", w/bolt, Mat'l, 12 Ga, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 12 Ga, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
Clamp, Bottom Tray "YB", w/bolt, Mat'l, 12 Ga, 3/8"-16 UNC-2A x 3" Bolt, Mat'l

*Commonly stocked in: Monel, Ty-304L, Ty-316L and Ty-410.

**Commonly stocked in: C.S.

Bottom Tray Clamp "YB" designed for use with 1" maximum thickness supports.

Other material types and bolt lengths are available upon request.

UNIVERSAL LEVER CLAMPS #2

Item No.

Item Description



316

316-MMMM 0
316-MMMM 1

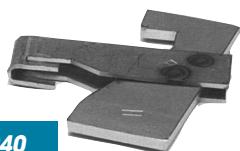
Clamp, Universal Lever #2, Mat'l, 14 Ga
* Clamp, Universal Lever #2, Mat'l, 12 Ga

*Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.

TRAY CLAMPS

Item No.

Item Description



940

940-MMMM 0101
940-MMMM 0102
940-MMMM 0201
940-MMMM 0202

* Clamp, Tray, Mat'l, (for use w/ max support thickness of 5/8"), 12 Ga
** Clamp, Tray, Mat'l, (for use w/ max support thickness of 5/8"), 10 Ga
* Clamp, Tray, Mat'l, (for use w/ 11/16 and 3/4" support thickness), 12 Ga
** Clamp, Tray, Mat'l, (for use w/ 11/16 and 3/4" support thickness), 10 Ga

*Commonly stocked in: Ty-304L and Ty-410.

**Available in C.S.

MANWAY LOCK CLAMPS #2 & 3

Item No.

Item Description



860

860-MMMM 4
860-MMMM 5

Clamp, Manway Lock #3, Mat'l, 3/16"t
* Clamp, Manway Lock #2, Mat'l, 1/4"t

Commonly stocked in: C.S., Monel, TY-304L, 316L and Ty-410.

*Available in C.S.

MANWAY LOCK CLAMPS #20

Item No.

Item Description



861

861-MMMM 1
861-MMMM 3

Clamp, Manway Lock #20, Mat'l, 3/16"t, for 3/8" Stud
* Clamp, Manway Lock #20, Mat'l, 1/4"t, for 3/8" Stud

Commonly stocked in: C.S., Monel, Ty304L, 316L and Ty-410.

*Available in C.S.

903-MMMM 01 Clamp, Bottom Tray "YD", Hole for 3/8" "D" shape Manway Stud, Mat'l, 11 Ga

↑ Insert Material identification number from chart on p. 7.

↑ Insert abbreviated Material name from p. 7.

Item No.	Item Description	BOTTOM TRAY CLAMPS "YD" (Manway)
903-MMMM 01	Clamp, Bottom Tray "YD", Hole for 3/8" "D" shape Manway Stud, Mat'l, 11 Ga	
903-MMMM 02	**Clamp, Bottom Tray "YD", Hole for 3/8" "D" shape Manway Stud, Mat'l, 10 Ga	
903-MMMM 03	*Clamp, Bottom Tray "YD", Hole for 3/8" "D" shape Manway Stud, Mat'l, 12 Ga	
*Commonly stocked in: Monel, Ty-304L, Ty-316L and Ty-410.		
**Commonly stocked in: C.S.		
Bottom Tray Clamp "YD" designed for use with 1" maximum thickness supports.		
Note: Other material types available on request for all BTCs.		

903

Item No.	Item Description	MANWAY LOCK CLAMPS #45
863-MMMM 2	Clamp, Manway Lock #45, Mat'l , 12 Ga, for 3/8" Stud	
863-MMMM 3	* Clamp, Manway Lock #45, Mat'l , 10 Ga, for 3/8" Stud	
863-MMMM 4	Clamp, Manway Lock #45, Mat'l , 11 Ga, for 3/8" Stud	
Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.		
*Available in C.S.		

863

Item No.	Item Description	MANWAY LOCK CLAMP #70
586-MMMM 3	Clamp, Manway Lock #70, Mat'l, 10 Ga, for 1/2" Stud	

586

Item No.	Item Description	MANWAY POINTER #75
585-MMMM 3	Pointer, Manway #75, Mat'l, 10 Ga, for 1/2" Stud	

585

Item No.	Item Description	MANWAY SEAL CLAMPS
583-MMMM 3	Clamp, Manway Seal, Mat'l, 10 Ga	
583-MMMM 4	Clamp, Manway Seal, Mat'l, 11 Ga	
583-MMMM 6	Clamp, Manway Seal, Mat'l, 12 Ga	
Commonly stocked in: C.S., Ty-304L, Ty-316L and Ty-410.		

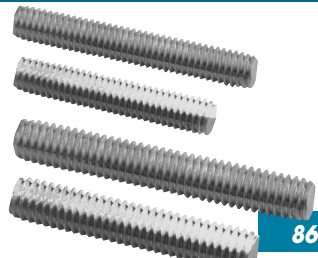
583

Item No.	Item Description	MANWAY LOCK CLAMPS
584-MMMM 3	Clamp, Manway Lock, Mat'l, 10 Ga	
584-MMMM 4	Clamp, Manway Lock, Mat'l, 11 Ga	
584-MMMM 6	Clamp, Manway Lock, Mat'l, 12 Ga	
Commonly stocked in: C.S., Ty-304L, Ty-316L and Ty-410.		

584

Item No.	Item Description	MANWAY CLAMP
938-MMMM 01 MMMM	Clamp, Manway, Mat'l, 3/8"-16 UNC-2B Nut, Mat'l	 938
Commonly stocked in: Ty-304L and Ty-410.		

938

Item No.	Item Description	MANWAY LOCK STUDS #5, 7, 10 & 11
865-MMMM 11	Stud, Manway Lock #5, Mat'l , 3/8"-16 UNC-2A x 2" LG	
865-MMMM 12	Stud, Manway Lock #7, Mat'l , 3/8"-16 UNC-2A x 2-1/2" LG	
865-MMMM 32	*Stud, Manway Lock #10 Mat'l , 1/2"-13 UNC-2A x 2-1/2" LG	
865-MMMM 33	Stud, Manway Lock #11, Mat'l , 1/2"-13 UNC-2A x 3" LG	
<i>*For use with Manway lock clamp #70 & Manway pointer #75 (Replaced MWL Stud #9, Part No. 587)</i>		
<i>Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.</i>		

865

909-MMMM 001 Seal Plate #10, Mat'l, 14 Ga, 3" LG

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

SEAL PLATES	Item No.	Item Description
 7/16" Dia LG	909-MMMM 001	Seal Plate #10, Mat'l, 14 Ga, 3" LG
	909-MMMM 002	Seal Plate #10A, Mat'l, 14 Ga, 3-1/2" LG
	909-MMMM 003	Seal Plate #10B, Mat'l, 14 Ga, 4" LG
	909-MMMM 004	Seal Plate #10C, Mat'l, 14 Ga, 4-1/2" LG
	909-MMMM 005	Seal Plate #10D, Mat'l, 14 Ga, 5" LG
	909-MMMM 000	Seal Plate #10X2, Mat'l, 14 Ga, 2" LG
	909-MMMM 006	Seal Plate, Mat'l, 14 Ga, 2-1/2" LG
	909-MMMM 007	Seal Plate, Mat'l, 14 Ga, 6" LG
	909-MMMM 008	Seal Plate, Mat'l, 14 Ga, 5-1/2" LG
909	909 Replaced Item #848 Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.	

Seal plates supplied in C.S. are 10 Ga. The last three digits of the item No. are different. For example, 201 instead of 001 for Seal plate #10, 202 instead of 002 for Seal plate #10A.

BEAM PLATE	Item No.	Item Description
935	935-MMMM 01	Beam Plate, Mat'l, 14 Ga
	Commonly stocked in: Ty-304L and Ty-410.	

FRICTION PLATE	Item No.	Item Description
937	937-MMMM 01	Friction Plate, Mat'l, 12 Ga
	Commonly stocked in: Ty-304L and Ty-410.	

SEAL PLATE	Item No.	Item Description
936	936-MMMM 01	Seal Plate, Mat'l, 16 Ga
	Commonly stocked in: Ty-304L and Ty-410.	

BOTTOM CLAMPS #5	Item No.	Item Description
841	841-MMMM 20	Clamp, Bottom #5, Mat'l, 12 Ga, 7/16" Hole
	841-MMMM 30	* Clamp, Bottom #5, Mat'l, 10 Ga, 7/16" Hole
	Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410. *Available in C.S.	

CLIP ANGLES #8, 10 & 11	Item No.	Item Description
826/827	826-MMMM 11	* Clip Angle # 8, Mat'l, 14 Ga
	826-MMMM 31	** Clip Angle #10, Mat'l, 10 Ga
	827-MMMM	*** Clip Angle #11, Mat'l, 1/4"t.
	Commonly stocked in: * 14 Ga: Monel, Ty-304L, Ty-316L and Ty-410. ** 10 Ga: C.S. ***Available in C.S.	

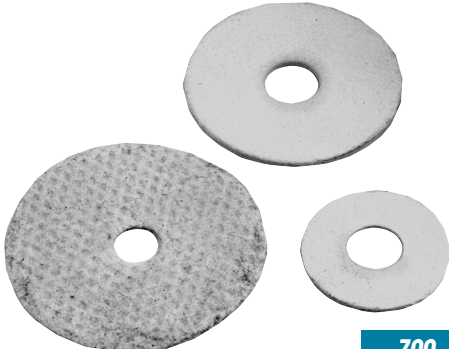
SINGLE BAR CLAMPS	Item No.	Item Description
321	321-MMMM 01	** Clamp, Single Bar, Mat'l, 10 Ga, 7/16" Hole
	321-MMMM 02	Clamp, Single Bar, Mat'l, 10 Ga, 9/16" Hole
	321-MMMM 11	* Clamp, Single Bar, Mat'l, 14 Ga, 7/16" Hole
	321-MMMM 12	Clamp, Single Bar, Mat'l, 14 Ga, 9/16" Hole
	*Commonly stocked in: Monel, Ty-304L, Ty-316L and Ty-410. **Commonly stocked in: C.S.	

WEDGE #2	Item No.	Item Description
821	821-MMMM	Wedge #2, Mat'l, 16 Ga
	Commonly stocked in: C.S., Monel, Ty-304L, Ty-316L and Ty-410.	

WEDGE	Item No.	Item Description
939	939-MMMM 01	Wedge, Mat'l, 16 Ga
	Commonly stocked in: Ty-304L and Ty-410.	

700-MMMM 110	*Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 1"od
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↑ Insert Material identification number from below.
 ↑ Insert abbreviated Material name from below.

Item No.	Item Description	WASHER GASKETS
700-MMMM 110	*Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 1"od	
700-MMMM 120	*Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 1-1/2"od	
700-MMMM 130	*Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 1-3/4"od	
700-MMMM 140	*Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 2-1/4"od	
700-MMMM 150	Gasket, Washer, Mat'l, 1/16"t x 3/8" id x 1-1/4"od	
700-MMMM 210	Gasket, Washer, Mat'l, 1/8"t x 3/8" id x 1"od	
700-MMMM 220	Gasket, Washer, Mat'l, 1/8"t x 3/8" id x 1-1/2"od	
700-MMMM 230	Gasket, Washer, Mat'l, 1/8"t x 3/8" id x 1-3/4"od	
700-MMMM 240	Gasket, Washer, Mat'l, 1/8"t x 3/8" id x 2-1/4"od	
700-MMMM 250	Gasket, Washer, Mat'l, 1/8"t x 3/8" id x 1-1/4"od	
*Commonly stocked in: D-8080. Material Identification No: (775G)D-8080, (760G)Teflon, (797G)Neoprene, (790G)Greenguard, (780G)TN-9000 and (791G)Grafoil-GHR		700

Item No.	Item Description	TAPE GASKETING
GKT-MMMM 062041	*Gasket, Tape, Mat'l, 1/16"t x 1"w	
GKT-MMMM 06205	*Gasket, Tape, Mat'l, 1/16"t x 1-1/4"w	
GKT-MMMM 06206	*Gasket, Tape, Mat'l, 1/16"t x 1-1/2"w	
GKT-MMMM 06208	*Gasket, Tape, Mat'l, 1/16"t x 2"w	
GKT-MMMM 06210	*Gasket, Tape, Mat'l, 1/16"t x 2-1/2"w	
GKT-MMMM 06212	Gasket, Tape, Mat'l, 1/16"t x 3"w	
GKT-MMMM 125041	*Gasket, Tape, Mat'l, 1/8"t x 1"w	
GKT-MMMM 12505	Gasket, Tape, Mat'l, 1/8"t x 1-1/4"w	
GKT-MMMM 12506	*Gasket, Tape, Mat'l, 1/8"t x 1-1/2"w	
GKT-MMMM 12508	Gasket, Tape, Mat'l, 1/8"t x 2"w	
GKT-MMMM 12510	Gasket, Tape, Mat'l, 1/8"t x 2-1/2"w	
GKT-MMMM 12512	Gasket, Tape, Mat'l, 1/8"t x 3"w	
*Commonly stocked in: Fiberglass Material Identification No: (770G)Fiberglass, (760G)Teflon, (797G)Neoprene and (750G)Ceramic Fiber. Note: All types except 1" wide are available in both Drop Warp (DW) and Non-Drop Warp (NDW) styles.		GKT

Item No.	Item Description	GASKET ROPES (SQUARE & ROUND)
GKR-MMMM 2002*	Rope, Gasket, Square, Mat'l, 1/8" x 1/8"	
GKR-MMMM 2006*	Rope, Gasket, Square, Mat'l, 3/8" x 3/8"	
GKR-MMMM 2008*	Rope, Gasket, Square, Mat'l, 1/2" x 1/2"	
GKR-MMMM 2010*	Rope, Gasket, Square, Mat'l, 5/8" x 5/8"	
GKR-MMMM 2012*	Rope, Gasket, Square, Mat'l, 3/4" x 3/4"	
GKR-MMMM 2004*	Rope, Gasket, Square, Mat'l, 1/4" x 1/4"	
GKR-MMMM 2016*	Rope, Gasket, Square, Mat'l, 1" x 1"	
GKR-MMMM 2018*	Rope, Gasket, Square, Mat'l, 1-1/8" x 1-1/8"	
GKR-MMMM 2020*	Rope, Gasket, Square, Mat'l, 1-1/4" x 1-1/4"	
GKR-MMMM 2024*	Rope, Gasket, Square, Mat'l, 1-1/2" x 1-1/2"	
GKR-MMMM 1002*	Rope, Gasket, Round, Mat'l, 1/8"	
GKR-MMMM 1006*	Rope, Gasket, Round, Mat'l, 3/8"	
GKR-MMMM 1008*	Rope, Gasket, Round, Mat'l, 1/2"	
GKR-MMMM 1010*	Rope, Gasket, Round, Mat'l, 5/8"	
GKR-MMMM 1012*	Rope, Gasket, Round, Mat'l, 3/4"	
GKR-MMMM 1004*	Rope, Gasket, Round, Mat'l, 1/4"	
GKR-MMMM 1016*	Rope, Gasket, Round, Mat'l, 1"	
GKR-MMMM 1018*	Rope, Gasket, Round, Mat'l, 1-1/8"	
GKR-MMMM 1020*	Rope, Gasket, Round, Mat'l, 1-1/4"	
GKR-MMMM 1024*	Rope, Gasket, Round, Mat'l, 1-1/2"	
Material Identification No: (770G) Fiberglass, (760G)Teflon, (797G)Neoprene, (750G) Ceramic Fiber and (798G)Gortex. * Specify Last # "0"= Standard, "1" = Braided"		GKR

307-MMMM 111	Cap, Flexitray Type "AC-U", Mat'l, 11 Ga (3mm), 7/16" (11.1mm) leg length
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Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

FLEXITRAY CAP TYPES AC-U - AE-U - AB-U	Item No.	Item Description
	307-MMMM 111	Cap, Flexitray Type "AC-U", Mat'l, 11 Ga (3mm), 7/16" (11.1mm) leg length
	307-MMMM 112	Cap, Flexitray Type "AD-U", Mat'l, 11 Ga (3mm), 1/2" (12.7mm) leg length
	307-MMMM 113	Cap, Flexitray Type "AE-U", Mat'l, 11 Ga (3mm), 9/16" (14.29mm) leg length
	307-MMMM 121	Cap, Flexitray Type "AC-U", Mat'l, 12 Ga (2.5mm), 7/16" (11.1mm) leg length
	307-MMMM 122	Cap, Flexitray Type "AD-U", Mat'l, 12 Ga (2.5mm), 1/2" (12.7mm) leg length
	307-MMMM 123	Cap, Flexitray Type "AE-U", Mat'l, 12 Ga (2.5mm), 9/16" (14.29mm) leg length
	307-MMMM 141	* Cap, Flexitray Type "AC-U", Mat'l, 14 Ga (2mm), 7/16" (11.1mm) leg length
	307-MMMM 142	* Cap, Flexitray Type "AD-U", Mat'l, 14 Ga (2mm), 1/2" (12.7mm) leg length
	307-MMMM 143	* Cap, Flexitray Type "AE-U", Mat'l, 14 Ga (2mm), 9/16" (14.29mm) leg length
	307-MMMM 161	* Cap, Flexitray Type "AC-U", Mat'l, 16 Ga (1.5mm), 7/16" (11.1mm) leg length
	307-MMMM 162	* Cap, Flexitray Type "AD-U", Mat'l, 16 Ga (1.5mm), 1/2" (12.7mm) leg length
	307-MMMM 163	* Cap, Flexitray Type "AE-U", Mat'l, 16 Ga (1.5mm), 9/16" (14.29mm) leg length
	307-MMMM 181	Cap, Flexitray Type "AC-U", Mat'l, 18 Ga (1.2mm), 7/16" (11.1mm) leg length
	307-MMMM 182	Cap, Flexitray Type "AD-U", Mat'l, 18 Ga (1.2mm), 1/2" (12.7mm) leg length
	307-MMMM 183	Cap, Flexitray Type "AE-U", Mat'l, 18 Ga (1.2mm), 9/16" (14.29mm) leg length
	307-MMMM 110	Cap, Flexitray Type "AB-U", Mat'l, 11 Ga (3mm), 3/8" (9.53mm) leg length
	307-MMMM 120	Cap, Flexitray Type "AB-U", Mat'l, 12 Ga (2.5mm), 3/8" (9.53mm) leg length
	307-MMMM 140	* Cap, Flexitray Type "AB-U", Mat'l, 14 Ga (2mm), 3/8" (9.53mm) leg length
	307-MMMM 160	* Cap, Flexitray Type "AB-U", Mat'l, 16 Ga (1.5mm), 3/8" (9.53mm) leg length
	307-MMMM 180	Cap, Flexitray Type "AB-U", Mat'l, 18 Ga (1.2mm), 3/8" (9.53mm) leg length

**Commonly stocked in: Ty-304L, Ty-316L and Ty-410.*



307

FLEXITRAY CAP TYPES AC-Z - AE-Z - AB-Z	Item No.	Item Description
	308-MMMM 111	Cap, Flexitray Type "AC-Z" (Flush Seat), Mat'l, 11 Ga (3mm), 7/16" (11.1mm) leg length
	308-MMMM 112	Cap, Flexitray Type "AD-Z" (Flush Seat), Mat'l, 11 Ga (3mm), 1/2" (12.7mm) leg length
	308-MMMM 113	Cap, Flexitray Type "AE-Z" (Flush Seat), Mat'l, 11 Ga (3mm), 9/16" (14.29mm) leg length
	308-MMMM 121	Cap, Flexitray Type "AC-Z" (Flush Seat), Mat'l, 12 Ga (2.5mm), 7/16" (11.1mm) leg length
	308-MMMM 122	Cap, Flexitray Type "AD-Z" (Flush Seat), Mat'l, 12 Ga (2.5mm), 1/2" (12.7mm) leg length
	308-MMMM 123	Cap, Flexitray Type "AE-Z" (Flush Seat), Mat'l, 12 Ga (2.5mm), 9/16" (14.29mm) leg length
	308-MMMM 141	* Cap, Flexitray Type "AC-Z" (Flush Seat), Mat'l, 14 Ga (2mm), 7/16" (11.1mm) leg length
	308-MMMM 142	* Cap, Flexitray Type "AD-Z" (Flush Seat), Mat'l, 14 Ga (2mm), 1/2" (12.7mm) leg length
	308-MMMM 143	* Cap, Flexitray Type "AE-Z" (Flush Seat), Mat'l, 14 Ga (2mm), 9/16" (14.29mm) leg length
	308-MMMM 161	* Cap, Flexitray Type "AC-Z" (Flush Seat), Mat'l, 16 Ga (1.5mm), 7/16" (11.1mm) leg length
	308-MMMM 162	* Cap, Flexitray Type "AD-Z" (Flush Seat), Mat'l, 16 Ga (1.5mm), 1/2" (12.7mm) leg length
	308-MMMM 163	* Cap, Flexitray Type "AE-Z" (Flush Seat), Mat'l, 16 Ga (1.5mm), 9/16" (14.29mm) leg length
	308-MMMM 181	Cap, Flexitray Type "AC-Z" (Flush Seat), Mat'l, 18 Ga (1.2mm), 7/16" (11.1mm) leg length
	308-MMMM 182	Cap, Flexitray Type "AD-Z" (Flush Seat), Mat'l, 18 Ga (1.2mm), 1/2" (12.7mm) leg length
	308-MMMM 183	Cap, Flexitray Type "AE-Z" (Flush Seat), Mat'l, 18 Ga (1.2mm), 9/16" (14.29mm) leg length
	308-MMMM 110	Cap, Flexitray Type "AB-Z" (Flush Seat), Mat'l, 11 Ga (3mm), 3/8" (9.53mm) leg length
	308-MMMM 120	Cap, Flexitray Type "AB-Z" (Flush Seat), Mat'l, 12 Ga (2.5mm), 3/8" (9.53mm) leg length
	308-MMMM 140	* Cap, Flexitray Type "AB-Z" (Flush Seat), Mat'l, 14 Ga (2mm), 3/8" (9.53mm) leg length
	308-MMMM 160	* Cap, Flexitray Type "AB-Z" (Flush Seat), Mat'l, 16 Ga (1.5mm), 3/8" (9.53mm) leg length
	308-MMMM 180	Cap, Flexitray Type "AB-Z" (Flush Seat), Mat'l, 18 Ga (1.2mm), 3/8" (9.53mm) leg length

**Commonly stocked in: Ty-304L, Ty-316L and Ty-410.*



308

303-MMMM 11 Cap, Flexitray Type "U", Mat'l, 11 Ga (3mm)

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

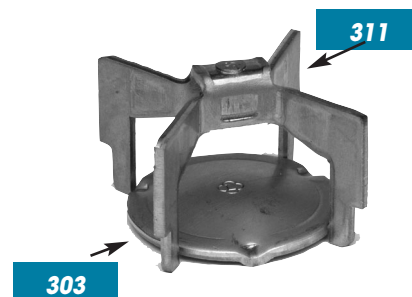
Item No.

Item Description

FLEXITRAY CAPS TYPE U (303)

FLEXITRAY CAPS HOLDDOWN TYPE M (311)

303-MMMM 11	Cap, Flexitray Type "U", Mat'l, 11 Ga (3mm)
303-MMMM 12	Cap, Flexitray Type "U", Mat'l, 12 Ga (2.5mm)
303-MMMM 14	Cap, Flexitray Type "U", Mat'l, 14 Ga (2mm)
303-MMMM 16	Cap, Flexitray Type "U", Mat'l, 16 Ga (1.5mm)
303-MMMM 18	Cap, Flexitray Type "U", Mat'l, 18 Ga (1.2mm)
311-MMMM 11	Cap Holddown, Flexitray Type "M", Mat'l, 11 Ga (3mm)
311-MMMM 12	Cap Holddown, Flexitray Type "M", Mat'l, 12 Ga (2.5mm)
311-MMMM 14	Cap Holddown, Flexitray Type "M", Mat'l, 14 Ga (2mm)



303

311

Item No.

Item Description

FLEXITRAY CAPS TYPE Z (304)

FLEXITRAY CAPS HOLDDOWN TYPE MQ

304-MMMM 11	Cap, Flexitray Type "Z" (Flush Seat), Mat'l, 11 Ga (3mm)
304-MMMM 12	Cap, Flexitray Type "Z" (Flush Seat), Mat'l, 12 Ga (2.5mm)
304-MMMM 14	Cap, Flexitray Type "Z" (Flush Seat), Mat'l, 14 Ga (2mm)
304-MMMM 16	Cap, Flexitray Type "Z" (Flush Seat), Mat'l, 16 Ga (1.5mm)
304-MMMM 18	Cap, Flexitray Type "Z" (Flush Seat), Mat'l, 18 Ga (1.2mm)
313-MMMM 12	Cap Holddown, Flexitray Type "MQ", Mat'l, 12 Ga (2.5mm), "Q" Type Holddown
313-MMMM 14	Cap Holddown, Flexitray Type "MQ", Mat'l, 14 Ga (2mm), "Q" Type Holddown
313-MMMM 121	Cap Holddown, Flexitray Type "MR", Mat'l, 12 Ga (2.5mm), "R" Type Holddown
313-MMMM 141	Cap Holddown, Flexitray Type "MR", Mat'l, 14 Ga (2mm), "R" Type Holddown
313-MMMM 122	Cap Holddown, Flexitray Type "MM", Mat'l, 12 Ga (2.5mm), "M" Type Holddown
313-MMMM 142	Cap Holddown, Flexitray Type "MM", Mat'l, 14 Ga (2mm), "M" Type Holddown



304

313

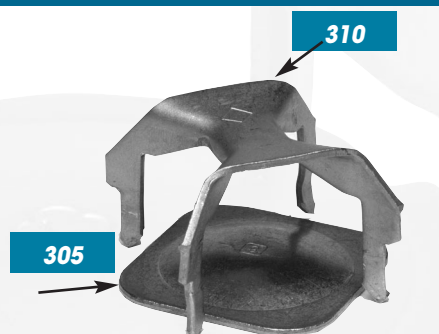
Item No.

Item Description

FLEXITRAY CAPS TYPE NRU & NRZ (305)

FLEXITRAY CAPS HOLDDOWN TYPE Q&R

305-MMMM 121	Cap, Flexitray Type "NRU", Mat'l, 12 Ga (2.5mm), 1
305-MMMM 141	Cap, Flexitray Type "NRU", Mat'l, 14 Ga (2mm), 1
305-MMMM 161	Cap, Flexitray Type "NRU", Mat'l, 16 Ga (1.5mm), 1
305-MMMM 122	Cap, Flexitray Type "NRZ" (Flush Seat), Mat'l, 12 Ga (2.5mm), 2
305-MMMM 142	Cap, Flexitray Type "NRZ" (Flush Seat), Mat'l, 14 Ga (2mm), 2
305-MMMM 162	Cap, Flexitray Type "NRZ" (Flush Seat), Mat'l, 16 Ga (1.5mm), 2
310-MMMM 012	Cap Holddown, Flexitray Type "Q", Mat'l, 12 Ga (2.5mm)
310-MMMM 014	Cap Holddown, Flexitray Type "Q", Mat'l, 14 Ga (2mm)
310-MMMM 112	Cap Holddown, Flexitray Type "R", Mat'l, 12 Ga (2.5mm)
310-MMMM 114	Cap Holddown, Flexitray Type "R", Mat'l, 14 Ga (2mm)



305

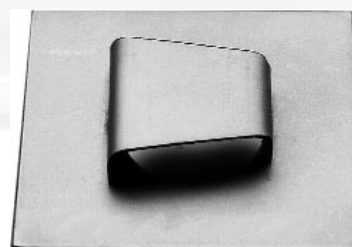
310

Item No.

Item Description

PROVALVE® TYPE FV-2 & FV-3

467-MMMM 1020	Provalve Type "FV-2", Mat'l, 10 Ga (3.5mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1120	Provalve Type "FV-2", Mat'l, 11 Ga (3mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1220	Provalve Type "FV-2", Mat'l, 12 Ga (2.5mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1420	*Provalve Type "FV-2", Mat'l, 14 Ga (2mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1620	*Provalve Type "FV-2", Mat'l, 16 Ga (1.5mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1820	Provalve Type "FV-2", Mat'l, 18 Ga (1.2mm), 1/2" (13mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1030	Provalve Type "FV-3", Mat'l, 10 Ga (3.5mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1130	Provalve Type "FV-3", Mat'l, 11 Ga (3mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1230	Provalve Type "FV-3", Mat'l, 12 Ga (2.5mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1430	*Provalve Type "FV-3", Mat'l, 14 Ga (2mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1630	*Provalve Type "FV-3", Mat'l, 16 Ga (1.5mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width
467-MMMM 1830	Provalve Type "FV-3", Mat'l, 18 Ga (1.2mm), 11/16" (17mm) Lift, 1/4" (7mm) Tab Width



U.S. Patent No. 6,089,550
U.S. Patent No. 5,762,834
U.S. Patent No. 5,911,922

*Commonly stocked in: Ty-304L, Ty-316L and Ty-410.

Note: Provalves are available with 3/8" (10mm) tab width.
Provalves Type "FV-3" are available with slot.

467

934-MMMM 01 Ballast (Valve SI) Unit, Mat'l, 16 Ga (1.5mm)

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

BALLAST (VALVE SI) UNITS

Item No.

Item Description



934

934-MMMM 01
934-MMMM 02

Ballast (Valve SI) Unit, Mat'l, 16 Ga (1.5mm)
Ballast (Valve SI) Unit, Mat'l, 14 Ga (2mm)

Commonly stocked in: Ty-304L and Ty-410.

MINI VALVES TYPES MV-1

Item No.

Item Description



620

620-MMMM 7518
620-MMMM 7516
620-MMMM 7514
620-MMMM 6518
620-MMMM 6516
620-MMMM 6514
620-MMMM 7618
620-MMMM 7616
620-MMMM 7614
620-MMMM 6618
620-MMMM 6616
620-MMMM 6614

Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 18 Ga (1.2mm)
Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 16 Ga (1.5mm)
Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 14 Ga (2mm)
*Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 18 Ga (1.2mm)
*Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 16 Ga (1.5mm)
*Mini-Valve MV-1, Mat'l, 0.3375" (8.57mm) leg length, 14 Ga (2mm)
Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 18 Ga (1.2mm)
Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 16 Ga (1.5mm)
Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 14 Ga (2mm)
*Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 18 Ga (1.2mm)
*Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 16 Ga (1.5mm)
*Mini-Valve MV-1, Mat'l, 0.3925" (9.97mm) leg length, 14 Ga (2mm)

*Flush Seat.

MINI VALVES TYPE MV-9

Item No.

Item Description



622

622-MMMM 9518
622-MMMM 5518
622-MMMM 9318
622-MMMM 5318
622-MMMM 9516
622-MMMM 5516

Mini-Valve MV-9, Mat'l, 5/16" (7.94mm) leg length, 18 Ga (1.2mm)
*Mini-Valve MV-9, Mat'l, 5/16" (7.94mm) leg length, 18 Ga (1.2mm)
Mini-Valve MV-9, Mat'l, 3/16" (4.76mm) leg length, 18 Ga (1.2mm)
*Mini-Valve MV-9, Mat'l, 3/16" (4.76mm) leg length, 18 Ga (1.2mm)
Mini-Valve MV-9, Mat'l, 5/16" (7.94mm) leg length, 16 Ga (1.5mm)
*Mini-Valve MV-9, Mat'l, 5/16" (7.94mm) leg length, 16 Ga (1.5mm)

*Flush Seat.

MINI VALVE TYPE VG-9

Item No.

Item Description



621

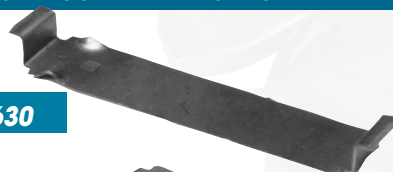
621-MMMM 8516

Mini-Valve VG-9, Mat'l, 16 Ga (1.5mm)

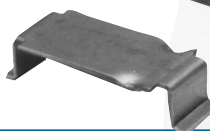
RECTANGULAR VALVE UNITS

Item No.

Item Description



630



631

630-MMMM 1720
630-MMMM 1618
630-MMMM 1816
630-MMMM 1914
631-MMMM 1720
631-MMMM 1618
631-MMMM 1816
631-MMMM 1914

Rectangular Valve Unit Type "R", Mat'l, 7/16" leg length, 20 Ga (1mm)
Rectangular Valve Unit Type "R", Mat'l, 3/8" leg length, 18 Ga (1.2mm)
Rectangular Valve Unit Type "R", Mat'l, 1/2" leg length, 16 Ga (1.5mm)
Rectangular Valve Unit Type "R", Mat'l, 9/16" leg length, 14 Ga (2mm)
Rectangular Valve Unit Type "HR", Mat'l, 7/16" leg length, 20 Ga (1mm)
Rectangular Valve Unit Type "HR", Mat'l, 3/8" leg length, 18 Ga (1.2mm)
Rectangular Valve Unit Type "HR", Mat'l, 1/2" leg length, 16 Ga (1.5mm)
Rectangular Valve Unit Type "HR", Mat'l, 9/16" leg length, 14 Ga (2mm)

CAPS FTC, FTD & FTE UNITS

Item No.

Item Description



397

397-MMMM 01
397-MMMM 02
397-MMMM 03
397-MMMM 11
397-MMMM 12
397-MMMM 13

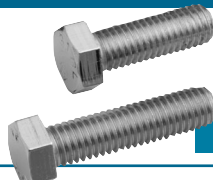
Cap FTC, Mat'l, 16 Ga (1.5mm), 0.47" (12mm) leg length
Cap FTD, Mat'l, 16 Ga (1.5mm), 0.53" (13.5mm) leg length
Cap FTE, Mat'l, 16 Ga (1.5mm), 0.59" (15mm) leg length
Cap FTC, Mat'l, 14 Ga (2mm), 0.47" (12mm) leg length
Cap FTD, Mat'l, 14 Ga (2mm), 0.53" (13.5mm) leg length
Cap FTE, Mat'l, 14 Ga (2mm), 0.59" (15mm) leg length

892-MMMM 01 Nut, Heavy Hex. Mat'l, 3/8"-16 UNC-2B

Insert Material identification number from chart on p. 7.

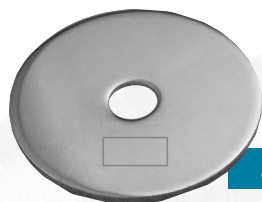
Insert abbreviated Material name from p. 7.

Item No.	Item Description	HEAVY HEX NUTS
892-MMMM 01	Nut, Heavy Hex. Mat'l, 3/8"-16 UNC-2B	 892
892-MMMM 02	Nut, Heavy Hex. Mat'l, 1/2"-13 UNC-2B	

Item No.	Item Description	HEAVY HEX HEAD BOLTS
885-MMMM 1204	Bolt, Heavy Hex. Head Mat'l, 3/8"-16 UNC-2A x 1" LG	 885
885-MMMM 1208	Bolt, Heavy Hex. Head Mat'l, 3/8"-16 UNC-2A x 2" LG	
885-MMMM 0108	Bolt, Heavy Hex. Head Mat'l, 1/2"-13 UNC-2A x 2" LG	
885-MMMM 0112	Bolt, Heavy Hex. Head Mat'l, 1/2"-13 UNC-2A x 3" LG	

Item No.	Item Description	CARRIAGE BOLT
881-MMMM 0210	Bolt, Carriage, Mat'l, 3/8"-16 UNC-2A,*	 881
*Represents the length of Bolt in 1/4" increments (10 x 1/4" = 2-1/2"). Available in other diameters and lengths.		

Item No.	Item Description	ECCENTRIC WASHERS
804-MMMM 1	Washer, Eccentric (1-1/2"od), Mat'l, 14 Ga	 804
804-MMMM 2	Washer, Eccentric (1-1/2"od), Mat'l, 12 Ga	
804-MMMM 3	Washer, Eccentric (1-1/2"od), Mat'l, 10 Ga	
804-MMMM 4	Washer, Eccentric (1-1/2"od), Mat'l, 3/16"t	
804-MMMM 5	Washer, Eccentric (1-1/2"od), Mat'l, 1/4"t	
804-MMMM 6	Washer, Eccentric (1-1/2"od), Mat'l, 11 Ga	

Item No.	Item Description	FRICTIONAL WASHERS
800-MMMM 021402	Washer, Frictional, Mat'l 12 Ga, 9/16" id x 1-3/8" od	 800
800-MMMM 020101	Washer, Frictional, Mat'l 12 Ga, 7/16" id x 1-1/2" od	
800-MMMM 020201	Washer, Frictional, Mat'l 12 Ga, 7/16" id x 1-3/4" od	
800-MMMM 020301	Washer, Frictional, Mat'l 12 Ga, 7/16" id x 2-1/4" od	
800-MMMM 050101	Washer, Frictional, Mat'l 1/4"t, 7/16" id x 1-1/2" od	
800-MMMM 050201	Washer, Frictional, Mat'l 1/4"t, 7/16" id x 1-3/4" od	
800-MMMM 050301	Washer, Frictional, Mat'l 1/4"t, 7/16" id x 2-1/4" od	

Item No.	Item Description	BOTTOM TRAY CLAMPS #50
843-MMMM 20	Clamp, Bottom Tray #50, Mat'l, 12 Ga, 7/16" Hole	 843
843-MMMM 30	* Clamp, Bottom Tray #50, Mat'l, 10 Ga, 7/16" Hole	
843-MMMM 40	Clamp, Bottom Tray #50, Mat'l, 11 Ga, 7/16" Hole	
*Available in C.S.		

Item No.	Item Description	BOTTOM TRAY CLAMPS #51
844-MMMM 21 MMMM	Clamp, Bottom Tray #51, Mat'l, 12 Ga, w/ nut 3/8"-16 UNC-2B, Mat'l	 844
844-MMMM 41 MMMM	Clamp, Bottom Tray #51, Mat'l, 11 Ga, w/ nut 3/8"-16 UNC-2B, Mat'l	
844-MMMM 31 MMMM	* Clamp, Bottom Tray #51, Mat'l, 10 Ga, w/ nut 3/8"-16 UNC-2B, Mat'l	
*Available in C.S.		

845-MMMM 21 MMMM

Clamp, Bottom Tray #52, Mat'l, 12 Ga, w/ bolt 3/8"x 2" LG, Mat'l

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

BOTTOM TRAY CLAMP #52

Item No.

Item Description



845-MMMM 21 MMMM
845-MMMM 22 MMMM
845-MMMM 29 MMMM
845-MMMM 41 MMMM
845-MMMM 42 MMMM
845-MMMM 49 MMMM
845-MMMM 31 MMMM
845-MMMM 32 MMMM
845-MMMM 39 MMMM

Clamp, Bottom Tray #52, Mat'l, 12 Ga, w/ bolt 3/8"x 2" LG, Mat'l
Clamp, Bottom Tray #52, Mat'l, 12 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
Clamp, Bottom Tray #52, Mat'l, 12 Ga, w/ bolt 3/8"x 3" LG, Mat'l
Clamp, Bottom Tray #52, Mat'l, 11 Ga, w/ bolt 3/8"x 2" LG, Mat'l
Clamp, Bottom Tray #52, Mat'l, 11 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
Clamp, Bottom Tray #52, Mat'l, 11 Ga, w/ bolt 3/8"x 3" LG, Mat'l
* Clamp, Bottom Tray #52, Mat'l, 10 Ga, w/ bolt 3/8"x 2" LG, Mat'l
* Clamp, Bottom Tray #52, Mat'l, 10 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
* Clamp, Bottom Tray #52, Mat'l, 10 Ga, w/ bolt 3/8"x 3" LG, Mat'l

*Available in C.S.

Bottom Tray Clamp #50, 51 and 52 are designed for use with 3/4" maximum thickness supports.

845

BOTTOM TRAY CLAMPS #55

Item No.

Item Description



847-MMMM 21 MMMM
847-MMMM 22 MMMM
847-MMMM 29 MMMM
847-MMMM 41 MMMM
847-MMMM 42 MMMM
847-MMMM 49 MMMM
847-MMMM 31 MMMM
847-MMMM 32 MMMM
847-MMMM 39 MMMM

Clamp, Bottom Tray #55, Mat'l, 12 Ga, w/ bolt 3/8"x 2" LG, Mat'l
Clamp, Bottom Tray #55, Mat'l, 12 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
Clamp, Bottom Tray #55, Mat'l, 12 Ga, w/ bolt 3/8"x 3" LG, Mat'l
Clamp, Bottom Tray #55, Mat'l, 11 Ga, w/ bolt 3/8"x 2" LG, Mat'l
Clamp, Bottom Tray #55, Mat'l, 11 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
Clamp, Bottom Tray #55, Mat'l, 11 Ga, w/ bolt 3/8"x 3" LG, Mat'l
* Clamp, Bottom Tray #55, Mat'l, 10 Ga, w/ bolt 3/8"x 2" LG, Mat'l
* Clamp, Bottom Tray #55, Mat'l, 10 Ga, w/ bolt 3/8"x 2-1/2" LG, Mat'l
* Clamp, Bottom Tray #55, Mat'l, 10 Ga, w/ bolt 3/8"x 3" LG, Mat'l

*Available in C.S.

Note: All Bottom Tray Clamps in the #50 series are available as a special order item.

Bottom Tray Clamp #53, 54 and 55 are designed for use with supports thicker than 3/4".

Our new Bottom Tray Clamp "Y" series replaces the old Bottom Tray Clamps #50 series:

*902 BTC "Y" replaces BTC #50 & 53 with open Hole.

*946 BTC "YN" replaces BTC #51 & 54 with welded Nut.

*932 BTC "YB" replaces BTC #52 & 55 with welded Bolt.

BTC "Y" Series are shown in the Standard Section.

847

BOTTOM TRAY CLAMPS #53

Item No.

Item Description



837-MMMM 235
837-MMMM 435
837-MMMM 335

Clamp, Bottom Tray #53, Mat'l, 12 Ga, Tab length
Clamp, Bottom Tray #53, Mat'l, 11 Ga, Tab length
* Clamp, Bottom Tray #53, Mat'l, 10 Ga, Tab length

837

*Available in C.S.

BOTTOM TRAY CLAMPS #54

Item No.

Item Description



838-MMMM 21 MMMM
838-MMMM 31 MMMM
838-MMMM 41 MMMM

Clamp, Bottom Tray #54, Mat'l, 12 Ga, w/ nut, 3/8"-16 UNC-2B, Mat'l
* Clamp, Bottom Tray #54, Mat'l, 10 Ga, w/ nut, 3/8"-16 UNC-2B, Mat'l
Clamp, Bottom Tray #54, Mat'l, 11 Ga, w/ nut, 3/8"-16 UNC-2B, Mat'l

*Available in C.S.

838

850-MMMM 2050 Clamp, Bottom Tray #20-E, Mat'l, 12 Ga, 1/2" Tab, 7/16" Hole

↑ Insert Material identification number from chart on p. 7.

↑ Insert abbreviated Material name from p. 7.

Item No.**Item Description****BOTTOM TRAY CLAMPS #20 Series**

850-MMMM 2050	Clamp, Bottom Tray #20-E, Mat'l, 12 Ga, 1/2" Tab, 7/16" Hole
852-MMMM 051 MMMM	Clamp, Bottom Tray #22-E, Mat'l, 12 Ga, 1/2" Tab, 3/8" Nut, Mat'l
853-MMMM 051 MMMM	Clamp, Bottom Tray #23-E, Mat'l, 12 Ga, 1/2" Tab, 3/8 x 2" Bolt, Mat'l
854-MMMM 2050	Clamp, Bottom Tray #24-E, Mat'l, 12 Ga, 1/2" Tab, 7/16" Hole
855-MMMM 051 MMMM	Clamp, Bottom Tray #26-E, Mat'l, 12 Ga, 1/2" Tab, 3/8" Nut, Mat'l
856-MMMM 051 MMMM	Clamp, Bottom Tray #27-E, Mat'l, 12 Ga, 1/2" Tab, 3/8 x 2" Bolt, Mat'l



Note: All Bottom Tray Clamps in the #20 series are available as a special order item.
Please specify part #, Ex. 20-E, 22-E, 23-E or tab height.

Our new Bottom Tray Clamps "Y" series replaces the old Bottom Tray Clamps #20 Series.

*902 BTC "Y" replaces BTC #20 series with open Hole.

*946 BTC "YN" replaces BTC #20 series with welded nut.

*932 BTC "YB" replaces BTC #20 series with welded bolt.

BTC "Y" series are shown in the standard section.

850/852
853/854
855/856

Item No.**Item Description****BOTTOM TRAY CLAMPS #10A-10P**

857-MMMM 010	Clamp, Bottom Tray #10A, Mat'l, 3/8" Tab length, 7/16" Hole
857-MMMM 020	Clamp, Bottom Tray #10B, Mat'l, 7/16" Tab length, 7/16" Hole
857-MMMM 030	Clamp, Bottom Tray #10C, Mat'l, 1/2" Tab length, 7/16" Hole
857-MMMM 040	Clamp, Bottom Tray #10D, Mat'l, 5/8" Tab length, 7/16" Hole
857-MMMM 050	Clamp, Bottom Tray #10E, Mat'l, 3/4" Tab length, 7/16" Hole
857-MMMM 060	Clamp, Bottom Tray #10F, Mat'l, 7/8" Tab length, 7/16" Hole
857-MMMM 070	Clamp, Bottom Tray #10G, Mat'l, 1" Tab length, 7/16" Hole
857-MMMM 080	Clamp, Bottom Tray #10H, Mat'l, 1-1/8" Tab length, 7/16" Hole
857-MMMM 090	Clamp, Bottom Tray #10J, Mat'l, 1-1/4" Tab length, 7/16" Hole
857-MMMM 100	Clamp, Bottom Tray #10K, Mat'l, 1-3/8" Tab length, 7/16" Hole
857-MMMM 110	Clamp, Bottom Tray #10L, Mat'l, 1-1/2" Tab length, 7/16" Hole
857-MMMM 120	Clamp, Bottom Tray #10M, Mat'l, 1-5/8" Tab length, 7/16" Hole
858-MMMM 130	Clamp, Bottom Tray #10N, Mat'l, 1-3/4" Tab length, 7/16" Hole
857-MMMM 140	Clamp, Bottom Tray #10O, Mat'l, 1-7/8" Tab length, 7/16" Hole
857-MMMM 150	Clamp, Bottom Tray #10P, Mat'l, 2" Tab length, 7/16" Hole



Bottom Tray Clamp #10 is also available with 9/16" Hole.

857

Item No.**Item Description****BOTTOM TRAY CLAMPS #12A-12N**

858-MMMM 011 MMMM	Clamp, Bottom Tray #12A, Mat'l, 3/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 021 MMMM	Clamp, Bottom Tray #12B, Mat'l, 7/16" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 031 MMMM	Clamp, Bottom Tray #12C, Mat'l, 1/2" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 041 MMMM	Clamp, Bottom Tray #12D, Mat'l, 5/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 051 MMMM	Clamp, Bottom Tray #12E, Mat'l, 3/4" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 061 MMMM	Clamp, Bottom Tray #12F, Mat'l, 7/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 071 MMMM	Clamp, Bottom Tray #12G, Mat'l, 1" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 081 MMMM	Clamp, Bottom Tray #12H, Mat'l, 1-1/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 091 MMMM	Clamp, Bottom Tray #12J, Mat'l, 1-1/4" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 101 MMMM	Clamp, Bottom Tray #12K, Mat'l, 1-3/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 111 MMMM	Clamp, Bottom Tray #12L, Mat'l, 1-1/2" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 121 MMMM	Clamp, Bottom Tray #12M, Mat'l, 1-5/8" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l
858-MMMM 131 MMMM	Clamp, Bottom Tray #12N, Mat'l, 1-3/4" Tab length, 3/8"x 16 UNC-2B Nut, Mat'l



Bottom Tray Clamp #12 is also available with other size welded nuts.

858

859-MMMM 011 MMMM

Clamp, Bottom Tray #13A, Mat'l, 3/8" Tab length, 3/8"-16 UNC-2A x 2" Bolt, Mat'l

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

BOTTOM TRAY CLAMPS #13A-13P

Item No.

Item Description



859

859-MMMM 011	MMMM	Clamp, Bottom Tray #13A, Mat'l, 3/8" Tab length, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
859-MMMM 021	MMMM	Clamp, Bottom Tray #13B, Mat'l, 7/16" Tab length, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
859-MMMM 031	MMMM	Clamp, Bottom Tray #13C, Mat'l, 1/2" Tab length, 3/8"-16 UNC-2A x 2" Bolt, Mat'l
859-MMMM 041	MMMM	Clamp, Bottom Tray #13D, Mat'l, 5/8" Tab length, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
859-MMMM 051	MMMM	Clamp, Bottom Tray #13E, Mat'l, 3/4" Tab length, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
859-MMMM 061	MMMM	Clamp, Bottom Tray #13F, Mat'l, 7/8" Tab length, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
859-MMMM 071	MMMM	Clamp, Bottom Tray #13G, Mat'l, 1" Tab length, 3/8"-16 UNC-2A x 2-1/2" Bolt, Mat'l
859-MMMM 081	MMMM	Clamp, Bottom Tray #13H, Mat'l, 1-1/8" Tab length, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
859-MMMM 091	MMMM	Clamp, Bottom Tray #13I, Mat'l, 1-1/4" Tab length, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
859-MMMM 101	MMMM	Clamp, Bottom Tray #13K, Mat'l, 1-3/8" Tab length, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
859-MMMM 111	MMMM	Clamp, Bottom Tray #13L, Mat'l, 1-1/2" Tab length, 3/8"-16 UNC-2A x 3" Bolt, Mat'l
859-MMMM 121	MMMM	Clamp, Bottom Tray #13M, Mat'l, 1-5/8" Tab length, 3/8"-16 UNC-2A x 3-1/2" Bolt, Mat'l
859-MMMM 131	MMMM	Clamp, Bottom Tray #13N, Mat'l, 1-3/4" Tab length, 3/8"-16 UNC-2A x 3-1/2" Bolt, Mat'l
859-MMMM 141	MMMM	Clamp, Bottom Tray #13O, Mat'l, 1-7/8" Tab length, 3/8"-16 UNC-2A x 3-1/2" Bolt, Mat'l
859-MMMM 151	MMMM	Clamp, Bottom Tray #13P, Mat'l, 2" Tab length, 3/8"-16 UNC-2A x 3-1/2" Bolt, Mat'l

Bottom Tray Clamp #13 is also available with other size bolts.

BOTTOM TRAY CLAMP #7

Item No.

Item Description



849

849-MMMM 1	MMMM	Clamp, Bottom Tray #7, Mat'l, 1/4"t, 3/8"-16 UNC-2A Stud, Mat'l
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UNIVERSAL LEVER CLAMPS # 1

Item No.

Item Description



315/331

315-MMMM 0		Clamp, Universal Lever #1, Mat'l, 14 Ga, 13/32" Hole
315-MMMM 1		Clamp, Universal Lever #1, Mat'l, 12 Ga, 13/32" Hole
315-MMMM 2		Clamp, Universal Lever #1, Mat'l, 11 Ga, 13/32" Hole

Item # 331

Single Lever Clamp # 1 is available with welded bolt. Specify bolt diameter and length when ordering.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp #1.

*902 BTC "Y" replaces the Single Lever Clamp #1 with open Hole (See Standard Section).

*932 BTC "YB" replaces the Single Lever Clamp #1 with bolt (See Standard Section).

UNIVERSAL LEVER CLAMPS #3

Item No.

Item Description



317/333

317-MMMM		Clamp, Universal Lever #3, Mat'l, 14 Ga, 13/32" Hole
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Item # 333

Single Lever Clamp # 3 is available with welded bolt. Specify bolt diameter and length when ordering.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp #3.

*902 BTC "Y" replaces the Single Lever Clamp #3 with open Hole (See Standard Section).

*932 BTC "YB" replaces the Single Lever Clamp #3 with bolt (See Standard Section).

SINGLE LEVER CLAMPS

Item No.

Item Description



322

322-MMMM 011		Clamp, Single Lever, Mat'l, 10 Ga, 5/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
322-MMMM 012		Clamp, Single Lever, Mat'l, 10 Ga, 5/16" Tab length, 7/16" Hole
322-MMMM 031		Clamp, Single Lever, Mat'l, 12 Ga, 9/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
322-MMMM 132		Clamp, Single Lever, Mat'l, 12 Ga, 9/16" Tab length, 7/16" Hole
322-MMMM 251		Clamp, Single Lever, Mat'l, 11 Ga, 13/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
322-MMMM 252		Clamp, Single Lever, Mat'l, 11 Ga, 13/16" Tab length, 7/16" Hole

Single Lever Clamp is available with additional tab lengths and hole sizes upon request.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp.

*902 BTC "Y" replaces the Single Lever Clamp with open Hole (See Standard Section).

*946 BTC "YN" replaces the Single Lever Clamp with tapped Hole (See Standard Section).

871-MMMM 210 Clamp, Top Tray #1, Mat'l, 12 Ga, 2-3/8" LG, w/ 7/16" Hole

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

Item No.	Item Description	TOP TRAY CLAMPS #1& 2
871-MMMM 210	Clamp, Top Tray #1, Mat'l, 12 Ga, 2-3/8" LG, w/ 7/16" Hole	
871-MMMM 220	Clamp, Top Tray #2, Mat'l, 12 Ga, 2-7/8" LG, w/ 7/16" Hole	
871-MMMM 310	*Clamp, Top Tray #1, Mat'l, 10 Ga, 2-3/8" LG, w/ 7/16" Hole	
871-MMMM 320	*Clamp, Top Tray #2, Mat'l, 10 Ga, 2-7/8" LG, w/ 7/16" Hole	
*Available in C.S.		871

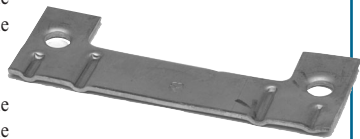
Item No.	Item Description	TRAY FLOOR CLAMPS #L-2 & L-4
870-MMMM 1	Clamp, Tray Floor #L-2, Mat'l, 14 Ga	
870-MMMM 2	Clamp, Tray Floor #L-4, Mat'l, 12 Ga	
		870

Item No.	Item Description	BOTTOM CLAMPS #4
846-MMMM 21	Clamp, Bottom #4, Mat'l, 12 Ga, 5/16" Lip	
846-MMMM 22	Clamp, Bottom #4-1, Mat'l, 12 Ga, 7/16" Lip	
846-MMMM 23	Clamp, Bottom #4-2, Mat'l, 12 Ga, 9/16" Lip	
846-MMMM 31	*Clamp, Bottom #4, Mat'l, 10 Ga, 5/16" Lip	
846-MMMM 32	*Clamp, Bottom #4-1, Mat'l, 10 Ga, 7/16" Lip	
846-MMMM 33	*Clamp, Bottom #4-2, Mat'l, 10 Ga, 9/16" Lip	
*Available in C.S.		846

Item No.	Item Description	BOTTOM CLAMPS #6, 7 & 8
836-MMMM 21	Clamp, Bottom #6, Mat'l, 12 Ga, 1/8" Lip	
836-MMMM 22	Clamp, Bottom #7, Mat'l, 12 Ga, 3/16" Lip	
836-MMMM 23	Clamp, Bottom #8, Mat'l, 12 Ga, 5/16" Lip	
836-MMMM 31	*Clamp, Bottom #6, Mat'l, 10 Ga, 1/8" Lip	
836-MMMM 32	*Clamp, Bottom #7, Mat'l, 10 Ga, 3/16" Lip	
836-MMMM 33	*Clamp, Bottom #8, Mat'l, 10 Ga, 5/16" Lip	
*Available in C.S.		836

Item No.	Item Description	BOTTOM CLAMPS #9
842-MMMM 202	Clamp, Bottom #9, Mat'l, 12 Ga, 1/2" Tab length	
842-MMMM 302	*Clamp, Bottom #9, Mat'l, 10 Ga, 1/2" Tab length	
*Available in C.S.		842

Item No.	Item Description	BOTTOM CLAMPS #12
872-MMMM 51	Clamp, Bottom #12, Mat'l, 1/4"t, 30 deg. Angle (SBC-1)	
872-MMMM 52	Clamp, Bottom #12, Mat'l, 1/4"t, 45 deg. Angle (SBC-2)	
Available in other thicknesses.		872

Item No.	Item Description	DOUBLE BAR CLAMPS
341-MMMM 001	Clamp, Double Bar, Mat'l, 10 Ga, 3-1/2" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
341-MMMM 101	Clamp, Double Bar, Mat'l, 12 Ga, 3-1/2" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
341-MMMM 011	Clamp, Double Bar, Mat'l, 10 Ga, 4" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
341-MMMM 111	Clamp, Double Bar, Mat'l, 12 Ga, 4" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
341-MMMM 021	Clamp, Double Bar, Mat'l, 10 Ga, 4-1/2" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
341-MMMM 121	Clamp, Double Bar, Mat'l, 12 Ga, 4-1/2" Hole spacing, 3/8"-16 UNC-2B Tapped Hole	
Double Bar Clamps are available with additional hole spacings (please specify) and with open holes.		341

343-MMMM 001 Clamp, Double Lever, Mat'l, 10 Ga, 3-1/2" Hole spacing, 5/16" Tab length, 3/8"-16 UNC-2B Tapped Hole

Insert Material identification number from chart on p. 7. Insert abbreviated Material name from p. 7.

DOUBLE LEVER CLAMPS

Item No.

Item Description



343

- 343-MMMM 0011 Clamp, Double Lever, Mat'l, 10 Ga, 3-1/2" Hole spacing, 5/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
 343-MMMM 1011 Clamp, Double Lever, Mat'l, 12 Ga, 3-1/2" Hole spacing, 5/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
 343-MMMM 0121 Clamp, Double Lever, Mat'l, 10 Ga, 4" Hole spacing, 7/16" Tab length, 3/8"-16 UNC-2B Tapped Hole
 343-MMMM 1121 Clamp, Double Lever, Mat'l, 12 Ga, 4" Hole spacing, 7/16" Tab length, 3/8"-16 UNC-2B Tapped Hole

Double Lever Clamps are available with other hole spacings, tab lengths, and with 7/16" holes. Please specify when ordering.

MANWAY LOCK CLAMP #65

Item No.

Item Description



861

- 861-MMMM 2 Clamp, Manway Lock #65, Mat'l, 1/4"t, for 1/2" Stud

MANWAY LOCK CLAMPS #30

Item No.

Item Description



862

- 862-MMMM 4 Clamp, Manway Lock #30, Mat'l, 3/16"t, for 3/8" Stud
 862-MMMM 5 * Clamp, Manway Lock #30, Mat'l, 1/4"t, for 3/8" Stud

*Available in C.S.

MANWAY LOCK CLAMPS #40A-P

Item No.

Item Description



864

- 864-MMMM 201 Clamp, Manway Lock #40A, Mat'l, 12 Ga, 3/16" Lip
 864-MMMM 204 Clamp, Manway Lock #40D, Mat'l, 12 Ga, 3/8" Lip
 864-MMMM 209 Clamp, Manway Lock #40J, Mat'l, 12 Ga, 1" Lip
 864-MMMM 215 Clamp, Manway Lock #40P, Mat'l, 12 Ga, 1-3/4" Lip
 864-MMMM 301 *Clamp, Manway Lock #40A, Mat'l, 10 Ga, 3/16" Lip
 864-MMMM 304 *Clamp, Manway Lock #40D, Mat'l, 10 Ga, 3/8" Lip
 864-MMMM 309 *Clamp, Manway Lock #40J, Mat'l, 10 Ga, 1" Lip
 864-MMMM 315 *Clamp, Manway Lock #40P, Mat'l, 10 Ga, 1-3/4" Lip

*Available in C.S.

Other sizes available in lip lengths with 1/16" increments.

903 BTC "YD" Replaces Manway Lock Clamp #40.
 BTC "YD" is shown in the Standard Section.

MANWAY LOCK CLAMPS #50A-50N

Item No.

Item Description



828

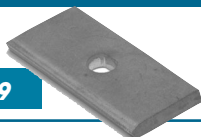
- 828-MMMM 012 Clamp, Manway Lock #50A, Mat'l, 3/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 022 Clamp, Manway Lock #50B, Mat'l, 7/16" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 032 Clamp, Manway Lock #50C, Mat'l, 1/2" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 042 Clamp, Manway Lock #50D, Mat'l, 5/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 052 Clamp, Manway Lock #50E, Mat'l, 3/4" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 062 Clamp, Manway Lock #50F, Mat'l, 7/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 072 Clamp, Manway Lock #50G, Mat'l, 1" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 082 Clamp, Manway Lock #50H, Mat'l, 1-1/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 092 Clamp, Manway Lock #50J, Mat'l, 1-1/4" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 102 Clamp, Manway Lock #50K, Mat'l, 1-3/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 112 Clamp, Manway Lock #50L, Mat'l, 1-1/2" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 122 Clamp, Manway Lock #50M, Mat'l, 1-5/8" Tab length, Hole for 3/8" "D" shape Manway Stud
 828-MMMM 132 Clamp, Manway Lock #50N, Mat'l, 1-3/4" Tab length, Hole for 3/8" "D" shape Manway Stud

Available with other size holes.

MANWAY LOCK CLAMP #55

Item No.

Item Description



829

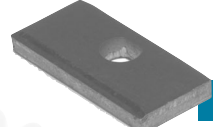
- 829-MMMM 2 Clamp, Manway Lock # 55, Mat'l, for 3/8" Stud

868-MMMM 4 Clamp, Manway Lock #60, Mat'l, 3/16"t, for 1/2" Stud

Insert Material identification number from chart on p. 7.

Item No.	Item Description	MANWAY LOCK CLAMPS #60
868-MMMM 4	Clamp, Manway Lock #60, Mat'l, 3/16"t, for 1/2" Stud	
868-MMMM 5	*Clamp, Manway Lock #60, Mat'l, 1/4"t, for 1/2" Stud	
*Available in C.S.		868

Item No.	Item Description	MANWAY LOCK CLAMPS #2-K THRU 2-V & 3-K THRU 3-V
869-MMMM 012	Clamp, Manway Lock #2-K, Mat'l, 1/4"t, w/ 1/16" Dimple	
869-MMMM 013	Clamp, Manway Lock #3-K, Mat'l, 3/16"t, w/ 1/16" Dimple	
869-MMMM 042	Clamp, Manway Lock #2-N, Mat'l, 1/4"t, w/ 1/4" Tab	
869-MMMM 043	Clamp, Manway Lock #3-N, Mat'l, 3/16"t, w/ 1/4" Tab	
869-MMMM 062	Clamp, Manway Lock #2-P, Mat'l, 1/4"t, w/ 3/8" Tab	
869-MMMM 063	Clamp, Manway Lock #3-P, Mat'l, 3/16"t, w/ 3/8" Tab	
869-MMMM 082	Clamp, Manway Lock #2-R, Mat'l, 1/4"t, w/ 1/2" Tab	
869-MMMM 083	Clamp, Manway Lock #3-R, Mat'l, 3/16"t, w/ 1/2" Tab	
869-MMMM 122	Clamp, Manway Lock #2-V, Mat'l, 1/4"t, w/ 3/4" Tab	
869-MMMM 123	Clamp, Manway Lock #3-V, Mat'l, 3/16"t, w/ 3/4" Tab	
Other material types, Hole dimensions and tab length (in 1/16" increments) available upon request. C.S. available in 1/4" thickness.		
		869

Item No.	Item Description	MANWAY LOCK CLAMPS #4
873-MMMM 4	Clamp, Manway Lock # 4, Mat'l, 3/16"t	
873-MMMM 5	Clamp, Manway Lock #4, Mat'l, 1/4"t	
		873

Item No.	Item Description	MANWAY WASHER
301-MMMM 306	Washer, Manway, Mat'l, 12 Ga., 2" od w/ hole for 3/8" "D" shape Manway Stud	
Available with other outside diameters, hole sizes and thicknesses.		
		301

Item No.	Item Description	TEE BOLTS (MANWAY)
300-MMMM 1	Tee Bolt (Manway), Mat'l, 3/8"-16 UNC-2A	
300-MMMM 2	Tee Bolt (Manway), Mat'l, 1/2"-13 UNC-2A	
		300

Item No.	Item Description	MANWAY STUDS
904-MMMM 02	Stud, Manway, Mat'l, 3/8"-16 UNC-2A, 2" LG	
904-MMMM 04	Stud, Manway, Mat'l, 3/8"-16 UNC-2A, 2-1/2" LG	
904-MMMM 07	Stud, Manway, Mat'l, 1/2"-13 UNC-2A, 2-1/4" LG	
Other Stud lengths are available on request.		904

Item No.	Item Description	SEAL PLATES
302-MMMM 220	Seal Plate, Mat'l, 14 Ga, 2" LG	
302-MMMM 225	Seal Plate, Mat'l, 14 Ga, 2-1/2" LG	
302-MMMM 230	Seal Plate, Mat'l, 14 Ga, 3" LG	
302-MMMM 235	Seal Plate, Mat'l, 14 Ga, 3-1/2" LG	
302-MMMM 240	Seal Plate, Mat'l, 14 Ga, 4" LG	
302-MMMM 245	Seal Plate, Mat'l, 14 Ga, 4-1/2" LG	
302-MMMM 250	Seal Plate, Mat'l, 14 Ga, 5" LG	
302-MMMM 255	Seal Plate, Mat'l, 14 Ga, 5-1/2" LG	
302-MMMM 260	Seal Plate, Mat'l, 14 Ga, 6" LG	
<i>Other size seal plates are available on request.</i>		
Seal Plates #909 replaces the Seal Plate #302 (See Standard Section).		
		302

840-MMMM 011 MMMM Clamp, Support Grid #2, Mat'l, 3/16" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l

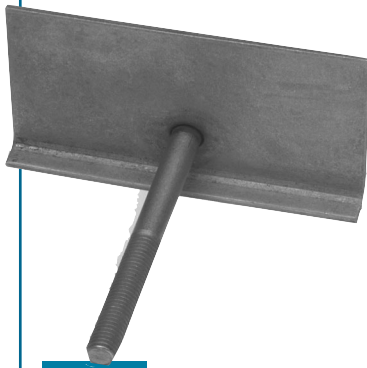
Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

SUPPORT GRID CLAMPS #2

Item No.

Item Description



840

840-MMMM 011	MMMM	Clamp, Support Grid #2, Mat'l, 3/16" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 021	MMMM	Clamp, Support Grid #2, Mat'l, 1/4" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 031	MMMM	Clamp, Support Grid #2, Mat'l, 5/16" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 041	MMMM	Clamp, Support Grid #2, Mat'l, 3/8" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 051	MMMM	Clamp, Support Grid #2, Mat'l, 1/2" Tab length, 4" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 061	MMMM	Clamp, Support Grid #2, Mat'l, 5/8" Tab length, 4-1/2" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 071	MMMM	Clamp, Support Grid #2, Mat'l, 3/4" Tab length, 4-1/2" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 081	MMMM	Clamp, Support Grid #2, Mat'l, 7/8" Tab length, 4-1/2" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 091	MMMM	Clamp, Support Grid #2, Mat'l, 1" Tab length, 4-1/2" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 101	MMMM	Clamp, Support Grid #2, Mat'l, 1-1/8" Tab length, 5" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 111	MMMM	Clamp, Support Grid #2, Mat'l, 1-1/4" Tab length, 5" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 121	MMMM	Clamp, Support Grid #2, Mat'l, 1-3/8" Tab length, 5" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l
840-MMMM 131	MMMM	Clamp, Support Grid #2, Mat'l, 1-1/2" Tab length, 5" LG Stud, 12 Ga, 3/8"-16 UNC-2A, Stud Mat'l

Available in other thicknesses and stud diameters.

GRID HOLDDOWN CLIP #3

Item No.

Item Description



878

878-MMMM	Clip, Grid Holddown #3, Mat'l,
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HOOK BOLT #1

Item No.

Item Description



888

888-MMMM 14016	Hook Bolt # 1, Mat'l, 3/8"-16 UNC-2A, *,**
* Represents length of Hook Bolt in 1/4" increments (40 x 1/4" = 10")	
**Represents length of threads in 1/4" increments (16 x 1/4" = 4")	

Note: Specify Hook Bolt length and length of threads.

HOLDDOWN PLATES #1 & #2

Item No.

Item Description



887

887-MMMM 11	Plate, Holddown #1, Mat'l, 14 Ga, 4" wide plate
887-MMMM 21	Plate, Holddown #1, Mat'l, 12 Ga, 4" wide plate
887-MMMM 31	Plate, Holddown #1, Mat'l, 10 Ga, 4" wide plate
887-MMMM 41	Plate, Holddown #1, Mat'l, 3/16"t, 4" wide plate
887-MMMM 51	Plate, Holddown #1, Mat'l, 1/4"t, 4" wide plate
887-MMMM 12	Plate, Holddown #2, Mat'l, 14 Ga, 2" wide plate
887-MMMM 22	Plate, Holddown #2, Mat'l, 12 Ga, 2" wide plate
887-MMMM 32	Plate, Holddown #2, Mat'l, 10 Ga, 2" wide plate
887-MMMM 42	Plate, Holddown #2, Mat'l, 3/16"t, 2" wide plate
887-MMMM 52	Plate, Holddown #2, Mat'l, 1/4"t, 2" wide plate

ANGLE HANGERS #10, 10S, 20 & 20S

Item No.

Item Description



815/816

815-MMMM 21	Hanger, Angle #10, Mat'l, 12 Ga, 7/16" Hole, 5" LG.
815-MMMM 22	Hanger, Angle #20, Mat'l, 12 Ga, 7/16" Hole, 6" LG.
815-MMMM 31	*Hanger, Angle #10, Mat'l, 10 Ga, 7/16" Hole, 5" LG.
815-MMMM 32	*Hanger, Angle #20, Mat'l, 10 Ga, 7/16" Hole, 6" LG.
816-MMMM 21	Hanger, Angle #10S, Mat'l, 12 Ga, 7/16" Hole, 4-1/4" LG.
816-MMMM 22	Hanger, Angle #20S, Mat'l, 12 Ga, 7/16" Hole, 5-1/4" LG.
816-MMMM 31	*Hanger, Angle #10S, Mat'l, 10 Ga, 7/16" Hole, 4-1/4" LG.
816-MMMM 32	*Hanger, Angle #20S, Mat'l, 10 Ga, 7/16" Hole, 5-1/4" LG.

*Available in C.S.

Note: the #10S and #20S has a 3/4" modification to accommodate design requirements. (See photo for details).

833-MMMM 206 MMMM Hanger, Top Truss #6, Mat'l, 12 Ga, 3/8" Tab with Stud, Mat'l

Insert Material identification number from chart on p. 7.

Insert abbreviated Material name from p. 7.

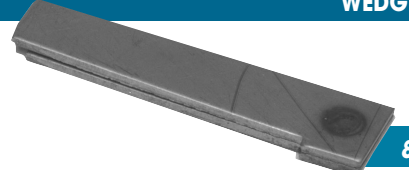
Item No.	Item Description	TOP TRUSS HANGERS #6 THRU 10
833-MMMM 206 MMMM	Hanger, Top Truss #6, Mat'l, 12 Ga, 3/8" Tab with Stud, Mat'l,	
833-MMMM 207 MMMM	Hanger, Top Truss #7, Mat'l, 12 Ga, 1/2" Tab with Stud, Mat'l,	
833-MMMM 208 MMMM	Hanger, Top Truss #8, Mat'l, 12 Ga, 5/8" Tab with Stud, Mat'l,	
833-MMMM 209 MMMM	Hanger, Top Truss #9, Mat'l, 12 Ga, 3/4" Tab with Stud, Mat'l,	
833-MMMM 210 MMMM	Hanger, Top Truss #10, Mat'l, 12 Ga, 7/8" Tab with Stud, Mat'l,	
833-MMMM 306 MMMM	Hanger, Top Truss #6, Mat'l, 10 Ga, 3/8" Tab with Stud, Mat'l,	
833-MMMM 307 MMMM	Hanger, Top Truss #7, Mat'l, 10 Ga, 1/2" Tab with Stud, Mat'l,	
833-MMMM 308 MMMM	Hanger, Top Truss #8, Mat'l, 10 Ga, 5/8" Tab with Stud, Mat'l,	
833-MMMM 309 MMMM	Hanger, Top Truss #9, Mat'l, 10 Ga, 3/4" Tab with Stud, Mat'l,	
833-MMMM 310 MMMM	Hanger, Top Truss #10, Mat'l, 10 Ga, 7/8" Tab with Stud, Mat'l,	
Note: Top Truss Hanger # 5 with an item 833-MMMM 205 or 833-MMMM 305 are without Studs.		833

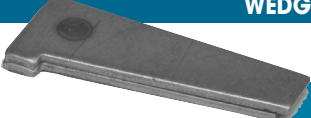
Item No.	Item Description	TOP TRUSS HANGER #12
834-MMMM	Hanger, Top Truss #12, Mat'l,	
		834

Item No.	Item Description	" C" CLAMPS #1 THRU 7
875-MMMM 1	Clamp, "C", #1, Mat'l, 16 Ga, 11/16" Opening	
875-MMMM 2	Clamp, "C", #2, Mat'l, 16 Ga, 17/32" Opening	
875-MMMM 3	Clamp, "C", #3, Mat'l, 16 Ga, 1-5/16" Opening	
875-MMMM 4	Clamp, "C", #4, Mat'l, 16 Ga, 1-3/8" Opening	
875-MMMM 5	Clamp, "C", #5, Mat'l, 16 Ga, 27/32" Opening	
875-MMMM 6	Clamp, "C", #6, Mat'l, 16 Ga, 1-1/16" Opening	
875-MMMM 7	Clamp, "C", #7, Mat'l, 16 Ga, 1-7/32" Opening	
		875

Item No.	Item Description	TYPE "A" WASHERS
807-MMMM 21	Washer, Type A, Mat'l, 12 Ga, 1" Slot	
807-MMMM 22	Washer, Type A-1, Mat'l, 12 Ga, 1-1/4" Slot	
807-MMMM 31	Washer, Type A, Mat'l, 10 Ga, 1" Slot	
807-MMMM 32	Washer, Type A-1, Mat'l 10 Ga, 1-1/4" Slot	
		807

Item No.	Item Description	TYPE "B" WASHERS
808-MMMM 2	Washer, Type B, Mat'l, 12 Ga	
808-MMMM 3	Washer, Type B, Mat'l, 10 Ga	
		808

Item No.	Item Description	WEDGE #6
823-MMMM	Wedge # 6, Mat'l,	
		823

Item No.	Item Description	WEDGE #10
824-MMMM	Wedge # 10, Mat'l,	
		824

600-MMMM 1620 Ballast Unit V-1 & GV-1, Mat'l, 3/8" (9.53mm) leg length, 20 Ga (1mm)

Insert Material identification number from chart on p. 7. Insert abbreviated Material name from p. 7.

BALLAST UNITS V1, GV-1, V-1H, GV-1H, V-4 & V-4H

Item No.

Item Description



600

600-MMMM 1620	Ballast Unit V-1 & GV-1, Mat'l, 3/8" (9.53mm) leg length, 20 Ga (1mm)
600-MMMM 1618	Ballast Unit V-1 & GV-1, Mat'l, 3/8" (9.53mm) leg length, 18 Ga (1.2mm)
600-MMMM 1616	** Ballast Unit V-1 & GV-1, Mat'l, 3/8" (9.53mm) leg length, 16 Ga (1.5mm)
600-MMMM 1614	** Ballast Unit V-1 & GV-1, Mat'l, 3/8" (9.53mm) leg length, 14 Ga (2mm)
600-MMMM 1612	Ballast Unit V-1H & GV-1H, Mat'l, 3/8" (9.53mm) leg length, 12 Ga (2.5mm)*
600-MMMM 1720	Ballast Unit V-1 & GV-1, Mat'l, 7/16" (11.11mm) leg length, 20 Ga (1mm)
600-MMMM 1718	Ballast Unit V-1 & GV-1, Mat'l, 7/16" (11.11mm) leg length, 18 Ga (1.2mm)
600-MMMM 1716	** Ballast Unit V-1 & GV-1, Mat'l, 7/16" (11.11mm) leg length, 16 Ga (1.5mm)
600-MMMM 1714	** Ballast Unit V-1 & GV-1, Mat'l, 7/16" (11.11mm) leg length, 14 Ga (2mm)
600-MMMM 1712	Ballast Unit V-1H & GV-1H, Mat'l, 7/16" (11.11mm) leg length, 12 Ga (2.5mm)*
600-MMMM 1820	Ballast Unit V-1 & GV-1, Mat'l, 1/2" (12.7mm) leg length, 20 Ga (1mm)
600-MMMM 1818	Ballast Unit V-1 & GV-1, Mat'l, 1/2" (12.7mm) leg length, 18 Ga (1.2mm)
600-MMMM 1816	Ballast Unit V-1 & GV-1, Mat'l, 1/2" (12.7mm) leg length, 16 Ga (1.5mm)
600-MMMM 1814	Ballast Unit V-1 & GV-1, Mat'l, 1/2" (12.7mm) leg length, 14 Ga (2mm)
600-MMMM 1812	Ballast Unit V-1H & GV-1H, Mat'l, 1/2" (12.7mm) leg length, 12 Ga (2.5mm)*
600-MMMM 1920	Ballast Unit V-4 or V-1, Mat'l, 9/16" (14.29mm) leg length, 20 Ga (1mm)
600-MMMM 1918	Ballast Unit V-4 or V-1, Mat'l, 9/16" (14.29mm) leg length, 18 Ga (1.2mm)
600-MMMM 1916	** Ballast Unit V-4 or V-1, Mat'l, 9/16" (14.29mm) leg length, 16 Ga (1.5mm)
600-MMMM 1914	** Ballast Unit V-4 or V-1, Mat'l, 9/16" (14.29mm) leg length, 14 Ga (2mm)
600-MMMM 1912	Ballast Unit V-4H or V-1H, Mat'l, 9/16" (14.29mm) leg length, 12 Ga (2.5mm)*
600-MMMM 1020	*** Ballast Unit V-1 & GV-1, Mat'l, 5/8" (15.88mm) leg length, 20 Ga (1mm)
600-MMMM 1018	*** Ballast Unit V-1 & GV-1, Mat'l, 5/8" (15.88mm) leg length, 18 Ga (1.2mm)
600-MMMM 1016	*** Ballast Unit V-1 & GV-1, Mat'l, 5/8" (15.88mm) leg length, 16 Ga (1.5mm)
600-MMMM 1014	*** Ballast Unit V-1 & GV-1, Mat'l, 5/8" (15.88mm) leg length, 14 Ga (2mm)
600-MMMM 1012	*** Ballast Unit V-1H & GV-1H, Mat'l, 5/8" (15.88mm) leg length, 12 Ga (2.5mm)*

*12 Ga (2.5mm) equivalent weight.

**Commonly stocked in: Ty-304L, Ty-316L and Ty-410.

***Europe only.

BALLAST UNITS V-1X, GV-1X, V-1XH, GV-1XH, V-4X & V-4XH

Item No.

Item Description



601

601-MMMM 2620	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 3/8" (9.53mm) leg length, 20 Ga (1mm)
601-MMMM 2618	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 3/8" (9.53mm) leg length, 18 Ga (1.2mm)
601-MMMM 2616	** Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 3/8" (9.53mm) leg length, 16 Ga (1.5mm)
601-MMMM 2614	** Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 3/8" (9.53mm) leg length, 14 Ga (2mm)
601-MMMM 2612	Ballast Unit V-1XH & GV-1XH (Flush Seat), Mat'l, 3/8" (9.53mm) leg length, 12 Ga (2.5mm)*
601-MMMM 2720	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 7/16" (11.11mm) leg length, 20 Ga (1mm)
601-MMMM 2718	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 7/16" (11.11mm) leg length, 18 Ga (1.2mm)
601-MMMM 2716	** Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 7/16" (11.11mm) leg length, 16 Ga (1.5mm)
601-MMMM 2714	** Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 7/16" (11.11mm) leg length, 14 Ga (2mm)
601-MMMM 2712	Ballast Unit V-1XH & GV-1XH (Flush Seat), Mat'l, 7/16" (11.11mm) leg length, 12 Ga (2.5mm)*
601-MMMM 2820	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 1/2" (12.7mm) leg length, 20 Ga (1mm)
601-MMMM 2818	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 1/2" (12.7mm) leg length, 18 Ga (1.2mm)
601-MMMM 2816	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 1/2" (12.7mm) leg length, 16 Ga (1.5mm)
601-MMMM 2814	Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 1/2" (12.7mm) leg length, 14 Ga (2mm)
601-MMMM 2812	Ballast Unit V-1XH & GV-1XH (Flush Seat), Mat'l, 1/2" (12.7mm) leg length, 12 Ga (2.5mm)*
601-MMMM 2920	Ballast Unit V-4X or V-1X (Flush Seat), Mat'l, 9/16" (14.29mm) leg length, 20 Ga (1mm)
601-MMMM 2918	Ballast Unit V-4X or V-1X (Flush Seat), Mat'l, 9/16" (14.29mm) leg length, 18 Ga (1.2mm)
601-MMMM 2916	** Ballast Unit V-4X or V-1X (Flush Seat), Mat'l, 9/16" (14.29mm) leg length, 16 Ga (1.5mm)
601-MMMM 2914	** Ballast Unit V-4X or V-1X (Flush Seat), Mat'l, 9/16" (14.29mm) leg length, 14 Ga (2mm)
601-MMMM 2912	Ballast Unit V-4XH or V-1XH (Flush Seat), Mat'l, 9/16" (14.29mm) leg length, 12 Ga (2.5mm)*
601-MMMM 2020	***Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 5/8" (15.88mm) leg length, 20 Ga (1mm)
601-MMMM 2018	***Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 5/8" (15.88mm) leg length, 18 Ga (1.2mm)
601-MMMM 2016	***Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 5/8" (15.88mm) leg length, 16 Ga (1.5mm)
601-MMMM 2014	***Ballast Unit V-1X & GV-1X (Flush Seat), Mat'l, 5/8" (15.88mm) leg length, 14 Ga (2mm)
601-MMMM 2012	***Ballast Unit V-1XH & GV-1XH (Flush Seat), Mat'l, 5/8" (15.88mm) leg length, 12 Ga (2.5mm)*

*12 Ga (2.5mm) equivalent weight.

**Commonly stocked in: Ty-304L, Ty-316L and Ty-410.

***Europe only.

610-MMMM 2118 Ballast Plate A-1, A-4, Mat'l, 18 Ga (1.2mm)

Insert Material identification number from chart on p. 7.
Insert abbreviated Material name from p. 7.

TRAVEL STOP (611)

Gage		A-1 E=.074 1.9mm	A-2 E=.160 4mm	A-2X E=.160 4mm
16	1.5mm	1116	1216	1216
14	2mm	1114	1214	1214
12	2.5mm	1112	1212	1212

E = "Tab" Depth (limits Ballast Plate rise)

BALLAST® PLATE (610)

Gage		A-1 A=7/32" 5.5mm	A-2 A=3/32" 2.4mm	A-2X A=0
18	1.2mm	2118	2218	2318
16	1.5mm	2116	2216	2316
14	2mm	2114	2214	2314
12	2.5mm	2112	2212	2312

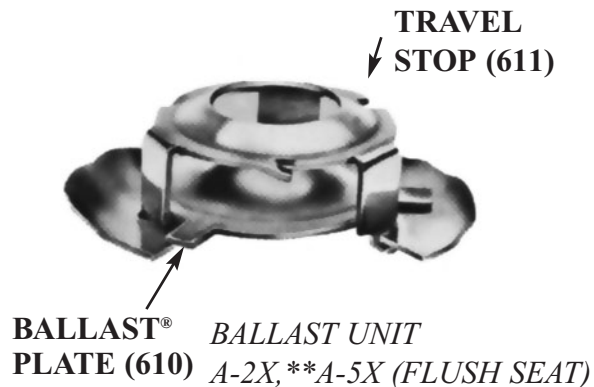
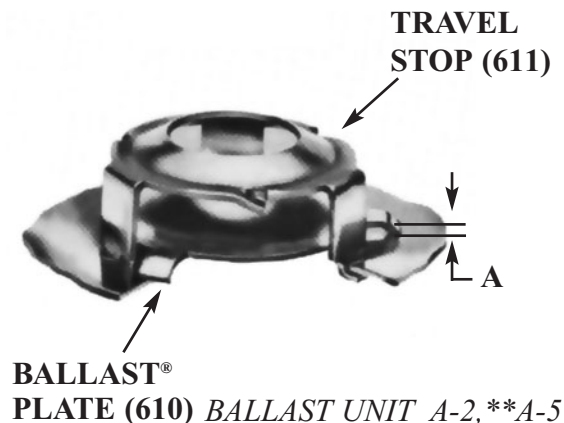
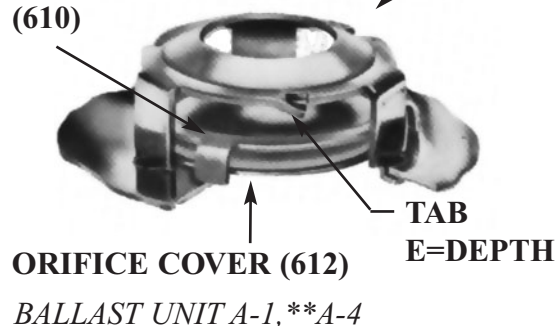
A= Ballast Plate Leg Length

ORIFICE COVER (612) (A-1 Units Only)

Gage		Flat	Corrugated	Dimpled
20	1mm	-	3220	3320
18	1.2mm	3118	-	-
16	1.5mm	3116	-	-
14	2mm	3114	-	-

**A-4, A-5, & A-5X are used with tray decks with extruded orifice

BALLAST® PLATE (610) TRAVEL STOP (611)



BALLAST PLATE

Item No.

Item Description

610-MMMM 2118

*Ballast Plate A-1, A-4, Mat'l, 18 Ga (1.2mm)

610

*Specify from Ballast Plate (610) Chart.

TRAVEL STOP

Item No.

Item Description

611-MMMM 1116

*Travel Stop A-1, A-4, Mat'l, 16 Ga (1.5mm)

611

*Specify from Travel Stop (611) Chart.

ORIFICE COVER

Item No.

Item Description

612-MMMM 3118

*Orifice Cover A-1, Mat'l, 18 Ga (1.2mm)

612

*Specify from Orifice Cover (612) Chart.

891-MMMM 03 Nut, Hex. Mat'l, M10 x 1.5-6H

Insert Material identification number from chart on p. 7.

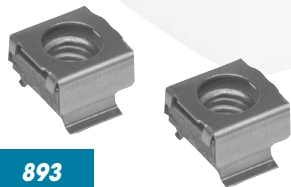
Insert abbreviated Material name from p. 7.

HEX NUTS**Item No.****Item Description****891**

891-MMMM 03
891-MMMM 04

Nut, Hex. Mat'l, M10 x 1.5-6H
Nut, Hex. Mat'l, M12 x 1.75-6H

Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.

CAGED NUTS**Item No.****Item Description****893**

893-MMMM 22
893-MMMM 32
893-MMMM 42

Nut, Caged, Mat'l, for 2mm Tray Deck Thickness, M10 x 1.5-6H
Nut, Caged, Mat'l, for 2.5 or 3.5mm Tray Deck Thickness, M10 x 1.5-6H
Nut, Caged, Mat'l, for 4.5 or 5.0mm Tray Deck Thickness, M10 x 1.5-6H

Commonly stocked in: C.S., Ty-304(L), Ty-316L and Ty-410.

HEX HEAD BOLTS**Item No.****Item Description****896**

896-MMMM 1305
896-MMMM 1307
896-MMMM 1310
896-MMMM 1407
896-MMMM 1410
896-MMMM 1413

Bolt, Hex. Head, Mat'l, M10 x 1.5-6g 25mm LG
Bolt, Hex. Head, Mat'l, M10 x 1.5-6g 35mm LG
Bolt, Hex. Head, Mat'l, M10 x 1.5-6g 50mm LG
Bolt, Hex. Head, Mat'l, M12 x 1.75-6g 35mm LG
Bolt, Hex. Head, Mat'l, M12 x 1.75-6g 50mm LG
Bolt, Hex. Head, Mat'l, M12 x 1.75-6g 65mm LG

Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.

CARRIAGE BOLT**Item No.****Item Description****881**

881-MMMM 0210

Bolt, Carriage, Mat'l, M10 x 1.5-6g,

*Represents the length of Bolt in 5mm increments (10 x 5mm = 50mm).

Available in other diameters and lengths.

MANWAY LOCK CLAMPS #2 & 3**Item No.****Item Description****860**

860-MMMM 4
860-MMMM 5

Clamp, Manway Lock #3, Mat'l, 5mm t
*Clamp, Manway Lock #2, Mat'l, 6mm t

Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.

*Available in C.S.

MANWAY LOCK CLAMPS #20 & 65**Item No.****Item Description****861**

861-MMMM 1
861-MMMM 2
861-MMMM 3
861-MMMM 5

Clamp, Manway Lock #20, Mat'l, 5mm t for M10 Stud
Clamp, Manway Lock #65, Mat'l, 5mm t for M12 Stud
*Clamp, Manway Lock #20, Mat'l, 6mm t for M10 Stud
*Clamp, Manway Lock #65, Mat'l, 6mm t for M12 Stud

Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.

*Available in C.S.

MANWAY CLAMP**Item No.****Item Description****938**

938-MMMM 02 MMMM

Clamp, Manway, Mat'l, M10 x 1.5-6H Nut, Mat'l

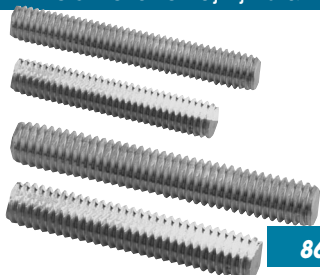
Commonly stocked in: Ty-304(L) and Ty-410.

386-MMMM 0 Washer, Bent Manway, Mat'l, 2mm t

↑ Insert Material identification number from chart on p. 7.
↑ Insert abbreviated Material name from p. 7.

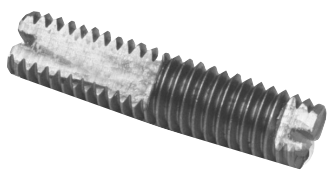
Item No.	Item Description	BENT MANWAY WASHERS
386-MMMM 0	Washer, Bent Manway, Mat'l, 2mm t	
386-MMMM 1	Washer, Bent Manway, Mat'l, 2.5mm t	
386-MMMM 2	Washer, Bent Manway, Mat'l, 3mm t	
386-MMMM 3	Washer, Bent Manway, Mat'l, 3.5mm t	
386-MMMM 4	Washer, Bent Manway, Mat'l, 4mm t	
386-MMMM 5	Washer, Bent Manway, Mat'l, 4.5mm t	
386-MMMM 6	Washer, Bent Manway, Mat'l, 5mm t	

386

Item No.	Item Description	MANWAY LOCK STUDS #5, 7, 10 & 11
865-MMMM 21	Stud, Manway Lock #5, Mat'l, M10 x 1.5-6g x 50mm LG	
865-MMMM 22	Stud, Manway Lock #7, Mat'l, M10 x 1.5-6g x 65mm LG	
865-MMMM 42	* Stud, Manway Lock #10, Mat'l, M12 x 1.75-6g x 65mm LG	
865-MMMM 43	Stud, Manway Lock #11, Mat'l, M12 x 1.75-6g x 75mm LG	

*For use with Manway Lock Clamp #70 and Manway Pointer #75 (Replaced MWL stud #9M, Part No. 587)
Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.

865

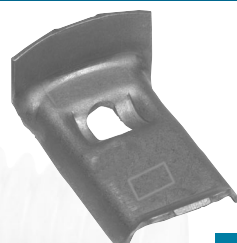
Item No.	Item Description	MANWAY STUDS
904-MMMM 01	Stud, Manway, Mat'l, M10 x 1.5-6g, 50mm LG	
904-MMMM 03	Stud, Manway, Mat'l, M10 x 1.5-6g, 65mm LG	
904-MMMM 08	Stud, Manway, Mat'l, M10 x 1.5-6g, 40mm LG	

904

Item No.	Item Description	BOTTOM TRAY CLAMPS "Y"
902-MMMM 01	Clamp, Bottom Tray "Y", Mat'l, 13mm Hole, 3mm t	
902-MMMM 02	** Clamp, Bottom Tray "Y", Mat'l, 13mm Hole, 3.5mm t	
902-MMMM 03	* Clamp, Bottom Tray "Y", Mat'l, 13mm Hole, 2.5mm t	

*Commonly stocked in: Monel, Ty-304(L), Ty-316L and Ty-410.
**Commonly stocked in: C.S.
Bottom Tray Clamp "Y" designed for use with 25mm maximum thickness supports.

902

Item No.	Item Description	BOTTOM TRAY CLAMPS "YD" (MANWAY)
903-MMMM 01	Clamp, Bottom Tray "YD", for M10 "D" shape Manway Stud, Mat'l, 3mm t	
903-MMMM 02	** Clamp, Bottom Tray "YD", for M10 "D" shape Manway Stud, Mat'l, 3.5mm t	
903-MMMM 03	* Clamp, Bottom Tray "YD", for M10 "D" shape Manway Stud, Mat'l, 2.5mm t	

*Commonly stocked in: Monel, Ty-304(L), Ty-316L and Ty-410.
**Commonly stocked in: C.S.
Note: Other material types available on request for all BTC's.
Bottom Tray Clamp "YD" designed for use with 25mm maximum thickness supports.

903

932-MMMM 013 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3mm t, M10 x 1.5-6g x 50mm Bolt, Mat'l



Insert Material identification number from chart on p. 7.



Insert abbreviated Material name from p. 7.

BOTTOM TRAY CLAMPS "YB"

Item No.

Item Description



932-MMMM 013 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3mm t, M10 x 1.5-6g x 50mm Bolt, Mat'l

932-MMMM 014 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3mm t, M10 x 1.5-6g x 65mm Bolt, Mat'l

932-MMMM 018 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3mm t, M10 x 1.5-6g x 75mm Bolt, Mat'l

932-MMMM 023 MMMM

** Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3.5mm t, M10 x 1.5-6g x 50mm Bolt, Mat'l

932-MMMM 024 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3.5mm t, M10 x 1.5-6g x 65mm Bolt, Mat'l

932-MMMM 028 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 3.5mm t, M10 x 1.5-6g x 75mm Bolt, Mat'l

932-MMMM 033 MMMM

* Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 2.5mm t, M10 x 1.5-6g x 50mm Bolt, Mat'l

932-MMMM 034 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 2.5mm t, M10 x 1.5-6g x 65mm Bolt, Mat'l

932-MMMM 038 MMMM

Clamp, Bottom Tray "YB", w/ bolt, Mat'l, 2.5mm t, M10 x 1.5-6g x 75mm Bolt, Mat'l

*Commonly stocked in: Monel, Ty-304(L), Ty-316L and Ty-410.

**Commonly stocked in: C.S.

Other material types and bolt lengths are available upon request.

Bottom Tray Clamp "YB" designed for use with 25mm maximum thickness supports.

932

BOTTOM TRAY CLAMPS "YN"

Item No.

Item Description



946-MMMM 102 MMMM

Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 3mm t, M10 x 1.5-6g Nut, Mat'l

946-MMMM 202 MMMM

** Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 3.5mm t, M10 x 1.5-6g Nut, Mat'l

946-MMMM 302 MMMM

* Clamp, Bottom Tray "YN", w/ Nut, Mat'l, 2.5mm t, M10 x 1.5-6g Nut, Mat'l

*Commonly stocked in: Monel, Ty-304(L), Ty-316L and Ty-410.

**Commonly stocked in: C.S.

Bottom Tray Clamp "YN" designed for use with 25mm maximum thickness supports.

946

UNIVERSAL LEVER CLAMPS #1

Item No.

Item Description



315-MMMM 0

Clamp, Universal Lever #1, Mat'l, 2mm t, 11mm Hole

315-MMMM 1

Clamp, Universal Lever #1, Mat'l, 2.5mm t, 11mm Hole

315-MMMM 2

Clamp, Universal Lever #1, Mat'l, 3mm t, 11mm Hole

Item # 331

Single Lever Clamp #1 is available with welded bolt. Specify bolt diameter and length when ordering.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp #1.

902 BTC "Y" replaces the Single Lever Clamp #1 with open hole. (See Page 8)

932 BTC "YB" replaces the Single Lever Clamp #1 with bolt. (See Page 9)

315/331

UNIVERSAL LEVER CLAMPS #3

Item No.

Item Description



317-MMMM

Clamp, Universal Lever #3, Mat'l, 2mm t, 11mm Hole

Item # 333

Single Lever Clamp #3 is available with welded bolt. Specify bolt diameter and length when ordering.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp #3.

902 BTC "Y" replaces the Single Lever Clamp #3 with open hole. (See Page 8)

932 BTC "YB" replaces the Single Lever Clamp #3 with bolt. (See Page 9)

317/333

SINGLE LEVER CLAMPS

Item No.

Item Description



322-MMMM 014

Clamp, Single Lever, Mat'l, 3.5mm t, 8mm Tab length, M10 x 1.5-6g Tapped Hole

322-MMMM 012

Clamp, Single Lever, Mat'l, 3.5mm t, 8mm Tab length, 11mm Hole

322-MMMM 134

Clamp, Single Lever, Mat'l, 2.5mm t, 14mm Tab length, M10 x 1.5-6g Tapped Hole

322-MMMM 132

Clamp, Single Lever, Mat'l, 2.5mm t, 14mm Tab length, 11mm Hole

322-MMMM 254

Clamp, Single Lever, Mat'l, 3mm t, 20mm Tab length, M10 x 1.5-6g Tapped Hole

322-MMMM 252

Clamp, Single Lever, Mat'l, 3mm t, 20mm Tab length, 11mm Hole

Single Lever Clamp is available with additional tab lengths and hole sizes upon request.

Our new Bottom Tray Clamp "Y" series replaces the old Single Lever Clamp.

902 BTC "Y" replaces the Single Lever Clamp with open hole. (See Page 8)

946 BTC "YN" replaces the Single Lever Clamp with tapped hole. (See Page 9)

322

909-MMMM 001	Seal Plate #10, Mat'l, 2mm, 76mm
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 Insert Material identification number from chart on p. 7.

 Insert abbreviated Material name from p. 7.

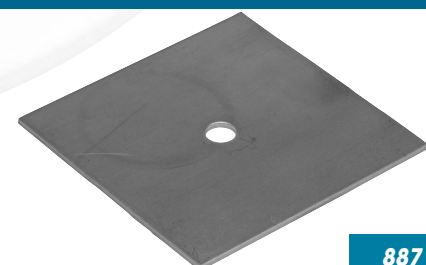
Item No.	Item Description	SEAL PLATES
909-MMMM 001	Seal Plate #10, Mat'l, 2mm t, 76mm LG	
909-MMMM 002	Seal Plate #10A, Mat'l, 2mm t, 89mm LG	
909-MMMM 003	Seal Plate #10B, Mat'l, 2mm t, 102mm LG	
909-MMMM 004	Seal Plate #10C, Mat'l, 2mm t, 115mm LG	
909-MMMM 005	Seal Plate #10D, Mat'l, 2mm t, 127mm LG	
909-MMMM 000	Seal Plate #10X2, Mat'l, 2mm t, 51mm LG	
909-MMMM 006	Seal Plate, Mat'l, 2mm t, 64mm LG	
909-MMMM 007	Seal Plate, Mat'l, 2mm t, 152mm LG	
909-MMMM 008	Seal Plate, Mat'l, 2mm t, 140mm LG	
Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.		<i>Seal Plates supplied in C.S. are 3.5mm t, the last three digits of the item no. is different for example, 201 instead of 001 for seal plate #10, 202 instead of 002 for seal plate #10A.</i>
909 Replaced Item #848		909

Item No.	Item Description	DOMED WASHERS
802-MMMM 101	Washer, Domed, Mat'l , 2mm t, 11mm id x 38mm od	
802-MMMM 301	*Washer, Domed, Mat'l , 3.5mm t, 11mm id x 38mm od	
802-MMMM 102	Washer, Domed, Mat'l , 2mm t, 11mm id x 44mm od	
802-MMMM 302	*Washer, Domed, Mat'l , 3.5mm t, 11mm id x 44mm od	
802-MMMM 103	Washer, Domed, Mat'l , 2mm t, 11mm id x 50mm od	
802-MMMM 303	*Washer, Domed, Mat'l , 3.5mm t, 11mm id x 50mm od	
802-MMMM 111	Washer, Domed, Mat'l , 2mm t, 14mm id x 38mm od	
Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.		
<i>*Available in C.S.</i>		
		802

Item No.	Item Description	FRICTIONAL WASHERS
800- MMMM 010801	Washer, Frictional, Mat'l , 2mm t, 11mm id x 25mm od	
800- MMMM 030801	*Washer, Frictional, Mat'l , 3.5mm t, 11mm id x 25mm od	
800- MMMM 020802	Washer, Frictional, Mat'l , 2.5mm t, 14mm id x 25mm od	
800- MMMM 030802	*Washer, Frictional, Mat'l , 3.5mm t, 14mm id x 25mm od	
Commonly stocked in: C.S., Monel, Ty-304(L), Ty-316L and Ty-410.		
*Available in C.S.		
		800

Item No.	Item Description	HOOK BOLT #1
888-MMMM 24016	Hook Bolt # 1, Mat'l, M10 x 1.5-6g, *, **	
* Represents length of Hook Bolt in 5mm increments (40 x 5mm = 200mm)		
**Represents length of threads in 5mm increments (16 x 5mm = 80mm)		
Note: Specify Hook Bolt length and length of threads.		

888

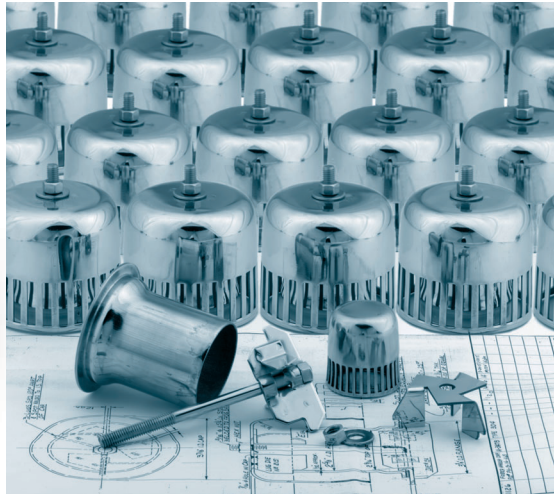
Item No.	Item Description	HOLDDOWN PLATES #1 & 2
887-MMMM 11	Plate, Holddown #1, Mat'l, 2mm t, 102mm wide	
887-MMMM 21	Plate, Holddown #1, Mat'l, 2.5mm t, 102mm wide	
887-MMMM 31	Plate, Holddown #1, Mat'l, 3.5mm t, 102mm wide	
887-MMMM 41	Plate, Holddown #1, Mat'l, 5mm t, 102mm wide	
887-MMMM 51	Plate, Holddown #1, Mat'l, 6mm t, 102mm wide	
887-MMMM 12	Plate, Holddown #2, Mat'l, 2mm t, 51mm wide	
887-MMMM 22	Plate, Holddown #2, Mat'l, 2.5mm t, 51mm wide	
887-MMMM 32	Plate, Holddown #2, Mat'l, 3.5mm t, 51mm wide	
887-MMMM 42	Plate, Holddown #2, Mat'l, 5mm t, 51mm wide	
887-MMMM 52	Plate, Holddown #2, Mat'l, 6mm t, 51mm wide	
		887

Item No.	Item Description	ANGLE HANGERS #161 thru 163
916-MMMM 1	Hanger, Angle #161-A (75mm LG), Mat'l, 2.5mm t	
916-MMMM 2	Hanger, Angle #162-A (75mm LG), Mat'l, 3 or 3.5mm t	
916-MMMM 3	Hanger, Angle #163-A (75mm LG), Mat'l, 5mm t	
917-MMMM 1	Hanger, Angle #161-B (150mm LG), Mat'l, 2.5mm t	
917-MMMM 2	Hanger, Angle #162-B (150mm LG), Mat'l, 3 or 2.5mm t	
917-MMMM 3	Hanger, Angle #163-B (150mm LG), Mat'l, 5mm t	
918-MMMM 1125	Hanger, Angle #161-C (125mm LG), Mat'l, 2.5mm t	
918-MMMM 2130	Hanger, Angle #162-C (130mm LG), Mat'l, 3 or 2.5mm t	
918-MMMM 3135	Hanger, Angle #163-C (135mm LG), Mat'l, 5mm t	
		916/917 918

SEE STANDARD & NON- STANDARD SECTIONS FOR VALVES, VALVE CAPS AND BALLAST UNITS.

**BUBBLE
CAPS**

NO NEED TO SEARCH FOR BUBBLE CAPS.



**KOCH-GLITSCH, LP IS THE
LARGEST MANUFACTURER
OF DRAWN BUBBLE CAPS
IN THE WORLD.**

WE MANUFACTURE OVER 5,000

DIFFERENT BUBBLE CAP DESIGNS.

**REPLACEMENT
SERVICES**

KOCH-GLITSCH, LP FOR TROUBLE-FREE TURNAROUNDS!

- **AHOP™ (Automated Hardware Ordering Program)**
- **Hardware Trailers & Lockers**
- **Koch-Glitsch Response Teams**
- **Satellite Warehouses**
- **Koch-Glitsch Field Service**
- **Extensive Inventory of Quality Hardware and Tray Components**
- **Custom Fabricated Tray Components**

Koch-Glitsch provides the most reliable equipment and services in your market. You can rely on our problem solving skills and expertise to save you time and money during your planned and unplanned turnarounds.

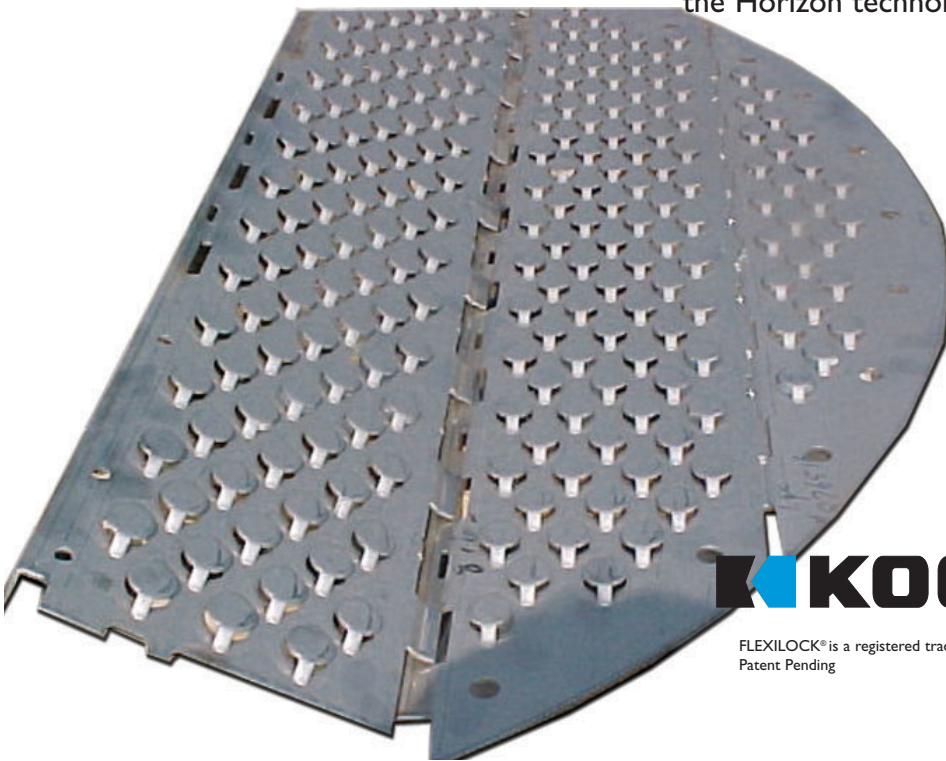
FLEXILOCK®

TRAY CONSTRUCTION

Flexilock is the new tray joint from Koch-Glitsch that

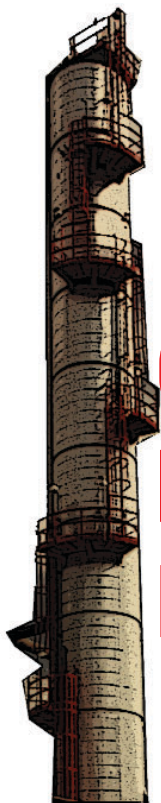
- ✓ Reduces hardware requirements
- ✓ Improves valve coverage
- ✓ Provides error-free deck installation
- ✓ Lessens installation time
- ✓ Strengthens joint and uplift tolerance
- ✓ Promotes in-shop installations
- ✓ Cancels vibration-induced panel shifting

This patented tray joint allows rapid installation of tray panels in vessel shops or in the field. Flexilock tray construction eliminates the requirement for hardware between adjacent tray panels and provides for error-free deck installations. Koch-Glitsch's Flexilock tray construction is the primary building block of the HORIZON™ technology. If you plan to shop-install trays, then you need the insurance provided by the Horizon technology.



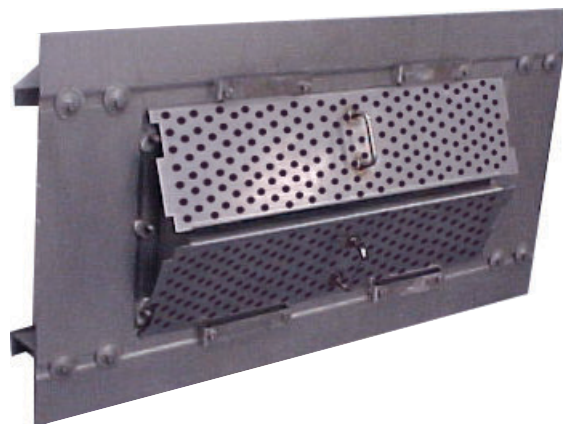
K KOCH-GLITSCH LP

FLEXILOCK® is a registered trademark of Koch-Glitsch, LP
Patent Pending



SPEED-WAY™

QUICK RETRO-FIT MANWAYS



At last, a technology that will allow you to easily add quick opening manways to your existing trays. Just remove the existing manway or active panels and replace them with Speed-Way!



Speed-Way Features:

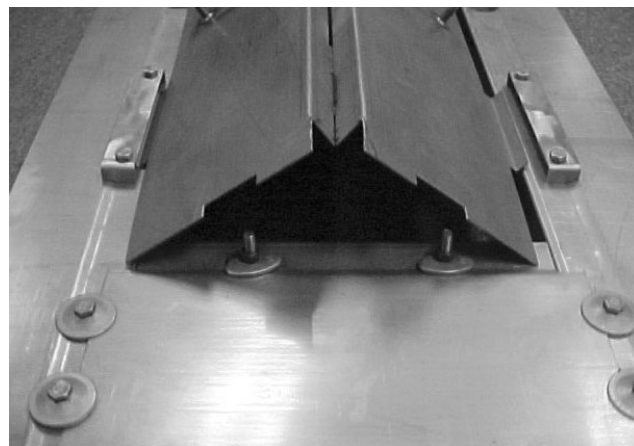
The feature that makes this most appealing is that it can be retro-fitted to existing trays without welding or any modifications to the adjacent panels. Simply replace the manway bolting device with the Speed-Way attachments and you are done. It is as quick and easy to install as the original manway. After the installation of the Speed-Way attachments, you have the ability to tunnel, inspect and clean quickly during future turnarounds saving as much as 20% of the opening and closing process.

For more information about SPEED-WAY, Call your local KOCH-GLITSCH LP Representative.

These are especially beneficial when:

- **TURNAROUND MANPOWER IS LIMITED**
- **SHORT DOWNTIME IS CRITICAL**
- **ROUTINE INSPECTIONS ARE REQUIRED**

If you need to tunnel through your column on a routine basis, this is a must. The most exciting thing about this is that we can fit it to any tray design that you presently have manways on.



Anytime, Anywhere...



Tower Hardware is Ready When You Are!

The Koch-Glitsch, LP Team is ready 24 hours a day to meet your hardware needs during your turnarounds or emergency shutdowns.

Only this team can provide you with this comprehensive array of services...

AHOP™... Don't Open Your Tower Without it!

Using AHOP™ (Automated Hardware Ordering Program), our innovative computer research service, we will determine exactly the correct type of hardware required for your towers before they are opened.

No Worries About Extra Costs for Hardware You Don't Need!

Because most of our hardware is provided on consignment, you only purchase the hardware you need for your turnaround. Unused hardware is returned to our inventory.

A Warehouse of Hardware at Your Site!

We'll package your hardware by unit and by tower, then deliver it to your worksite in our specially designed hardware lockers or trailers. Additional hardware you may need will be restocked throughout your turnaround.

A Response Team Member Can Be Right Beside You On-site Throughout Your Turnaround!

To ensure a smooth, trouble-free turnaround, we can provide a member of our specially trained response team to be on-site with you during the entire period of your turnaround, manning our trailers and lockers, making sure that your hardware, trays and tower internal needs are always met.

For more information about our services, call your local Koch-Glitsch, LP representative.

Koch-Glitsch Corporate Offices

Worldwide Headquarters

Koch-Glitsch, LP

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For a complete list of our offices and facilities, visit us on the Web at www.koch-glitsch.com.

Emergency Numbers

US: 1-888-KOCH-911.

Europe: +39-06-928-911, +44-1782-744561, or your local Koch-Glitsch office.

Asia Pacific: Contact your local Koch-Glitsch office.

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