SECTION 10 56 00

SHELVING AND CLOSET HARDWARE

Display hidden notes to specifier. (Don't know how? [Click Here](http://www.arcat.com/sd/display_hidden_notes.shtml))

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**\*\* NOTE TO SPECIFIER \*\* Knape & Vogt Mfg. Co.; shelf standards, brackets, shelving, hang rod products. This section is based on the products of Knape & Vogt Mfg. Co., which is located at: 2700 Oak Industrial Dr. N.E.  Grand Rapids, MI 49505-6083 Toll Free Tel: 800-253-1561 Tel: 616-459-3311 Fax: 616-459-0249 Email:** [**request info (roxi.brewer@kv.com)**](http://request%20info%20(roxi.brewer@kv.com))**Web:** [**www.kv.com**](http://www.kv.com) **[** [**Click Here**](http://www.arcat.com/arcatcos/cos33/arc33630.html) **] for additional information. This section covers the shelving hardware that made KV famous: slotted standards that can be mounted to virtually any type of wall, with reinforced steel brackets that lock in place for strong, secure support. It also covers pilaster style slotted standards for mounting inside cabinetwork using the same standard and bracket principle, fixed and folding L-brackets, shelving, and closet rods and accessories.**

PART 1 GENERAL

1.1 SECTION INCLUDES

**\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.**

A. Shelf standards, brackets, and accessories.

B. Closet hardware and accessories.

C. Miscellaneous wall brackets and accessories.

1.2 RELATED SECTIONS

**\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.**

A. Section 06 20 00 - Finish Carpentry.

B. Section 06 40 00 - Architectural Woodwork.

C. Section 06 41 13 - Wood-Veneer-Faced Architectural Cabinets.

D. Section 06 41 20 - Cabinet/Drawer Hardware.

1.3 REFERENCES

**\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.**

A. ANSI/BHMA A156.9, American National Standard for Cabinet Hardware.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Shelf standards and brackets meet or exceed the ANSI performance standards as established by ANSI/BHMA A156.9.

1.5 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.

3. Installation methods.

**\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.**

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

1.7 WARRANTY

A. Provide manufacturer's limited lifetime warranty.

1. EXTRA MATERIALS

B. See Section 01 60 00 - Product Requirements.

C. Deliver extra sets of hardware items for Owner's use in maintenance.

**\*\* NOTE TO SPECIFIER \*\* Extra sets of hardware are not usually required except on very large projects. Delete if not required.**

1. Furnish \_\_\_ extra standard straight brackets of each size required; deliver to location designated by Owner in original packaging.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Knape & Vogt Mfg. Co., which is located at: 2700 Oak Industrial Dr. N.E. ; Grand Rapids, MI 49505-6083; Toll Free Tel: 800-253-1561; Tel: 616-459-3311; Fax: 616-459-0249; Email: [request info (susan.hughes@kv.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Knape+%26+Vogt+Mfg.+Co.&coid=33630&rep=&fax=616-459-0249&message=RE:%20Spec%20Question%20(10671k_v):%20%20&mf=); Web: [www.kv.com](http://www.kv.com)

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

**\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required to suit project requirements. Select the systems required from the following paragraphs and delete those not required. Identify the location of each on the Drawings or on the Schedule at the end of this section.  \*\* NOTE TO SPECIFIER \*\* The shelf standards are identified by general weight loading names indicating their relative capacity. Verify actual load capacity based on spacing, bracket length, shelf type, installation type, and fastening. Super duty: 540 to 1,060 pounds per pair of standards.  Extra duty: 320 to 680 pounds per pair of standards  Heavy duty: 285 to 480 pounds per pair  Heavy duty - decorative: 300 to 450 pounds per pair  Standard duty: 120 to 320 pounds per pair**

2.2 SHELVING SYSTEMS

**\*\* NOTE TO SPECIFIER \*\* Super Duty Shelf Standards and Brackets offered in steel for super-duty storage and display applications for display cases, repair garages, maintenance areas, industrial, and records rooms. Also offered in 304-grade stainless steel for applications requiring strong corrosion and acid resistance, sanitary/easy-to-clean surfaces, or an improved aesthetic appearance: hospitals, commercial kitchens, food processing facilities, laboratories, pharmaceutical industries and outdoor applications.**

A. Super Duty Shelf Standards and Brackets:

1. Shelf Standard Components: Super-Duty 87 Standard single-slotted channel wall standards. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting 540 to 1,060 pounds per pair of standards when properly installed.

a. Face Width: 7/8 inch (22 mm), single slotted.

b. Material:

**\*\* NOTE TO SPECIFIER \*\* Delete three of the following four paragraphs.**

1) Material and Finish: Steel, Anochrome, electro zinc-plated, clear lacquer, ROHS compliant.

2) Material and Finish: Steel, White, powder-coat; provide screws with matching heads, ROHS compliant.

3) Material and Finish: Stainless steel, 304 grade, brushed finish.

4) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 24, 36, 48, 60, 72, 84, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Straight Shelf Bracket Components: Steel, reinforced, locking into slots with molded nylon cam lock lever; size to suit shelves. Brackets adjustable in 2 inch (50.8 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 8, 10, 12, 14, 16, 18, 20, 22, and 24 inch lengths.**

a. Shelf Brackets:

1) Double rung system Model 186.

2) Triple rung system Model 187.

3) 12 gage steel, reinforced, locking into slots with molded nylon cam lock lever; size to suit shelves; same finish as standards.

3. Shelving:

**\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs.**

a. Shelving: Model 1987 GALV Series: Galvanized Steel: mounted 32 inches on center for use with 87/186/187 shelving system; screws included.

b. Shelving: Model 1987 SS Series: Stainless Steel; mounted 32 inches on center for use with 87 SS/186 SS/187 SS shelving system; screws included.

c. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

4. Cornice Brackets: Provide where cornices are indicated as part of shelving.

5. Steel Shelf Rests and Rubber Shelf Cushions: Provide as required to fasten shelves to shelf brackets.

a. Type: Shelf rests, end: Model 210: Connects one shelf to end of shelving run.

b. Type: Shelf rests, center: Model 211: Connects two shelves together at center of shelves.

c. Type: Shelf rests, front: Model 212: Connects two shelves together at front of shelves.

d. Type: Shelf rest center: Model 213: Connects two shelves together at center of shelves.

e. Type: Shelf cushions, rubber: Model 129.

**\*\* NOTE TO SPECIFIER \*\* Extra Duty Shelf Standards and Brackets offered in steel for extra-duty areas receiving frequent use and rough handling: supply storage (educational/restaurant/office), stock rooms, libraries, and records rooms.**

B. Extra Duty Shelf Standards and Brackets:

1. Shelf Standard Components: Extra-Duty 85 Standard single-slotted channel wall standards. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting 320 to 680 pounds per pair of standards when properly installed.

a. Face: 1-1/4 inch (32 mm) wide by 1/2 inch (13 mm) deep, single slotted.

b. Material:

**\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs.**

1) Material and Finish: Steel, Anochrome, electro zinc-plated, clear lacquer, ROHS compliant.

2) Material and Finish: Steel, White, powder-coat; provide screws with matching heads, ROHS compliant.

3) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 24, 36, 48, 60, 72, 84, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Shelf Bracket Components: Steel, reinforced, locking into slots; size to suit shelves. Brackets adjustable in 1 inch (25.4 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Available in 8, 10, 12, 14, 16, 18, 20, 22, and 24 inch lengths.**

a. Straight Shelf Brackets: Model 185: Steel, double lug pattern and double slot design to withstand high weight loads; locking into standards; same finish as standards.

b. Heavy-Duty Lock Lever Shelf Brackets: Model 161: Steel, triple lug pattern and single slot design; Anochrome finish; ROHS compliant.

c. Shelf Brackets: As scheduled and indicated on Drawings.

3. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

4. Cornice Brackets: Provide where cornices are indicated as part of shelving.

5. Support Bracket: Model 159: Provide where shelving needs special support.

6. Panel Clip: Model 113: To attach display and wall panels vertically on standards.

7. Shelf Rests: Model 106: Provide where shelves are indicated to join at shelf bracket.

8. Hang Rod Clamp: Model 107: Provide where garment rods are indicated to secure to shelf bracket.

9. Hang Rod Saddle: Model 191: Provide when garment rods are indicated to be supported by a shelf bracket.

10. Hang Rod Saddle: Model 192: Provide when garment rods are indicated to be supported by a shelf bracket.

11. Closet Rod: Provide where garment rods are indicated. (See 2.10 Closet Rods section).

**\*\* NOTE TO SPECIFIER \*\* Heavy Duty Shelf Standards and Brackets offered in steel for heavy-duty areas with long runs of shelving that require shelving to be secured to brackets: retail store fixtures, display cases, records rooms, and stock rooms. May be used with 85 standards for added support in long shelving runs. Also accommodates 180 ANO Brackets and all other KV 1 inch adjustable brackets.**

C. Heavy Duty Shelf Standards and Brackets:

1. Shelf Standard Components: Heavy-Duty 83 Standard single-slotted channel wall standards. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting 285 to 480 pounds per pair of standards when properly installed.

a. Face: 3/4 inch (19 mm) wide by 1/2 inch (12 mm) deep, single slotted.

b. Material:

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs.**

1) Material and Finish: Steel, Anochrome, electro zinc-plated, clear lacquer, ROHS compliant.

2) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 24, 36, 48, 60, 72, 84, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Shelf Bracket Components: Steel, reinforced, locking into slots; size to suit shelves. Brackets adjustable in 1 inch (25.4 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Select options required from the following five paragraphs. Available in 8, 10, 12, 14, 16, 18, 20, 22, and 24 inch lengths except for Models 183R, 183L and 183C that are not available in 24 inch or Model 161 which is not available in 8, 10 and 12 inch.**

a. Right Flanged Shelf Brackets: Model 183R: Double tab type with flange for quickly attaching wood shelves to brackets, locking into slots; size to suit shelves; same finish as standards; use for installing RIGHT side of shelf; keyhole mounting holes for easy installation of shelves.

b. Left Flanged Shelf Brackets: Model 183L: Double tab type with flange for quickly attaching wood shelves to brackets, locking into slots; size to suit shelves; same finish as standards; use for installing LEFT side of shelf; keyhole mounting holes for easy installation of shelves.

c. Center Flanged Shelf Brackets: Model 183C: Double tab type with flange for quickly attaching wood shelves to brackets, locking into slots; size to suit shelves; same finish as standards; use for joining two shelves together; keyhole mounting holes for easy installation of shelves.

d. Heavy-Duty Lock Lever Shelf Brackets: Model 161: Steel, triple lug pattern and single slot design; ideal for commercial displays; size to suit shelves; same finish as standards.

e. Shelf Brackets: As scheduled and indicated on Drawings.

3. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

4. Cornice Brackets: Provide where cornices are indicated as part of shelving.

5. Support Bracket: Model 159: Provide where shelving needs special support.

6. Panel Clip: Model 113: To attach display and wall panels vertically on standards.

7. Hang Rod Saddle: Model 191: Provide when garment rods are indicated to be supported by a shelf bracket.

8. Hang Rod Saddle: Model 192: Provide when garment rods are indicated to be supported by a shelf bracket.

9. Standard Bottom Socket: Model 134: Provide as required to secure the bottom of standards.

10. Standard Top Socket: Model 135: Provide as required to secure the top of standards.

11. Closet Rod: Provide where garment rods are indicated. (See 2.10 Closet Rods section).

**\*\* NOTE TO SPECIFIER \*\* Heavy Duty Decorative Shelf Standards and Brackets offered in steel for heavy-duty areas for both commercial and home use for storage and work surface applications: offices (school, hospital, home), garages, pantries, closets, and records rooms.**

D. Heavy Duty Shelf Decorative Standards and Brackets:

1. Shelf Standard Components: Heavy-Duty Decorative 82 Standard double-slotted channel wall standards. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting 300 to 450 pounds per pair of standards when properly installed.

a. Face: 1-31/64 inch (37.7 mm) wide by 11/16 inch (17.5 mm) deep, double slotted.

b. Material and Finish: Steel.

**\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs.**

1) Finish: Black, powder-coat, ROHS Compliant; provide screws with matching heads.

2) Finish: Titanium, powder-coat, ROHS Compliant; provide screws with matching heads.

3) Finish: White, powder-coat, ROHS Compliant; provide screws with matching heads.

4) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 16.5, 28, 39, 48, 63, 78 and 94 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Shelf Bracket Components: Steel, reinforced, locking into slots; size to suit shelves. Brackets adjustable in 1-1/4 inch (31.8 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Select option required from the following two paragraphs. Available in 5, 7, 9, 10.5, 12.5, 14.5, 18.5, and 24 inch lengths.**

a. Model 182: Double tab type, double lug, locking into slots; size to suit shelves; same finish as standards.

b. Shelf Brackets: As scheduled and indicated on Drawings.

3. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

4. Bracket Lock: Model 182DP LOCK: Provide where brackets indicated to be anchored into standards.

5. Bookends: Model 182BE: Provide as scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Standard Duty Shelf Standards and Brackets offered in steel for standard-duty areas for office storage, retail displays, utility closets, basement storage, home libraries, linen closets, and laundry rooms.**

E. Standard Duty Shelf Standards and Brackets:

1. Shelf Standard Components: Standard-Duty 80 Standard, single-slotted channel wall standards. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting 120 to 320 pounds per pair of standards when properly installed.

a. Face: 5/8 inch (16 mm) wide by 13/32 inch (10.3 mm) deep, single slotted.

b. Material and Finish: Steel.

**\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs.**

1) Anochrome, electro zinc-plated, clear lacquer, ROHS compliant; provide screws with matching heads.

2) Black, powder-coat; provide screws with matching heads.

3) Brown, powder-coat; provide screws with matching heads.

4) Titanium, powder-coat; provide screws with matching heads.

5) White, powder-coat; provide screws with matching heads.

6) Brass, electroplated; provide screws with matching heads.

7) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 12, 18, 24, 36, 48, 60, 72, 84, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Shelf Bracket Components: Steel, reinforced, locking into slots; size to suit shelves. Brackets adjustable in 1 inch (25.4 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Model 180 available in 4, 6, 8, 10, 12, 14, 16, 18, and 20 inch lengths. Model 181 available in 8, 10, 12, 14, and 16 inch lengths. Model 160 available in 6, 8, 10, 12, 14, and 16 inch lengths. Model 179 available in 10, 12, and 14 inch lengths.**

a. Straight Lipped Shelf Brackets: Model 180: Steel, reinforced, lip holds shelving in place; size to suit shelves; same finish as standards.

b. Straight Lipless Shelf Brackets: Model 181: Steel, reinforced; size to suit shelves; same finish as standards.

c. Regular-Duty Lock Lever Shelf Brackets: Model 160: Steel; ideal for high traffic displays; size to suit shelves; Anochrome, ROHS compliant.

d. Adjustable Angle Shelf Brackets: Model 179: Steel, adjusts to 0 (level), 15, 30 or 45 degree angles; Anochrome, ROHS compliant.

e. Shelf Brackets: As scheduled and indicated on Drawings.

3. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

4. Cornice Brackets: Provide where cornices are indicated as part of shelving.

5. Shelf Rest/Joiner, Back, Clear Plastic: Model 101 PLAS: Supports and joins two glass shelves at the back of the bracket.

6. Shelf Rest/Joiner, Front, Clear Plastic: Model 102 PLAS: Supports and joins two glass shelves at the front of the bracket. Lipped to prevent shelf from shifting.

7. Shelf Rest, Front, Clear Plastic: Model 103 PLAS: Supports glass shelf at the front of the bracket. Lipped to prevent shelf from shifting.

8. Shelf rest, Front, LEFT, Clear Plastic: Model 103-1/2L PLAS: Supports glass shelf at the LEFT front of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

9. Shelf rest, Front, RIGHT, Clear Plastic: Model 103-1/2R PLAS: Supports glass shelf at the RIGHT front of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

10. Shelf Rest, Back, Clear Plastic: Model 104 PLAS: Supports glass shelf at the back of the bracket.

11. Shelf Rest, Back, Clear Plastic: Model 104-1/2 PLAS: Supports glass shelf at the back of the bracket at the end of a shelving run.

12. Shelf Rest, End, Clear Plastic: Model 105 PLAS: Supports glass shelf at the back of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

13. Shelf Cushion, Rubber: Model 129. Use with shelf rests to cushion glass shelves.

14. Shelf Cushion, Rubber: Model 119. Use with shelf rests to cushion glass shelves.

15. Standard Bottom Socket: Model 136: Provide as required to secure the bottom of standards.

16. Standard Top Socket: Model 137: Provide as required to secure the top of standards.

17. Shelf Fastener: Model 154: Provide as required to secure shelves to brackets.

**\*\* NOTE TO SPECIFIER \*\* Standard Duty Shelf Standards and Brackets offered in steel for standard-duty areas with long runs of shelving that require shelving to be secured to brackets: retail store fixtures, display cases, records rooms, and stock rooms. May be used with 85 standards for added support in long shelving runs.**

F. Standard Duty Shelf Standards and Brackets:

1. Narrow Shelf Standard Components: Standard-Duty 71 narrow single-slotted narrow wall channel wall standards for double rung shelving brackets. Standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c. is capable of supporting up to 220 pounds per pair of standards when properly installed.

a. Face: 5/16 inch (7.9 mm) wide by 13/32 inch (10.3 mm) deep, single slotted.

b. Material:

1) Material and Finish: Steel, Anochrome, electro zinc-plated, clear lacquer, ROHS compliant.

2) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 48, 60, 72, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Shelf Bracket Components: Steel, reinforced, locking into slots; size to suit shelves. Brackets adjustable in 1 inch (25.4 mm) increments along entire length of standard, drilled and countersunk for screws.

**\*\* NOTE TO SPECIFIER \*\* Select option required from the following paragraphs. Available in 10, 12, and 14 inch lengths.**

a. Straight Shelf Brackets: Model 170: 14-gauge steel, reinforced.

b. Shelf Brackets: As scheduled and indicated on Drawings.

3. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

5. Cornice Brackets: Provide where cornices are indicated as part of shelving.

6. Clear Plastic Shelf Rests (front and back) and Rubber Shelf Cushions: Provide where glass shelves are scheduled and indicated on Drawings.

a. As scheduled and indicated on Drawings.

b. Shelf Rest/Joiner, Back, Clear Plastic: Model 101 PLAS: Supports and joins two glass shelves at the back of the bracket.

c. Shelf Rest/Joiner, Front, Clear Plastic: Model 102 PLAS: Supports and joins two glass shelves at the front of the bracket. Lipped to prevent shelf from shifting.

d. Shelf Rest, Front, Clear Plastic: Model 103 PLAS: Supports glass shelf at the front of the bracket. Lipped to prevent shelf from shifting.

e. Shelf rest, Front, LEFT, Clear Plastic: Model 103-1/2L PLAS: Supports glass shelf at the LEFT front of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

f. Shelf rest, Front, RIGHT, Clear Plastic: Model 103-1/2R PLAS: Supports glass shelf at the RIGHT front of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

g. Shelf Rest, Back, Clear Plastic: Model 104 PLAS: Supports glass shelf at the back of the bracket.

h. Shelf Rest, Back, Clear Plastic: Model 104-1/2 PLAS: Supports glass shelf at the back of the bracket at the end of a shelving run.

i. Shelf Rest, End, Clear Plastic: Model 105 PLAS: Supports glass shelf at the back of the bracket at the end of a shelving run. Lipped to prevent shelf from shifting.

j. Shelf Cushions, Rubber: Model 129. Use with shelf rests to cushion glass shelves.

**\*\* NOTE TO SPECIFIER \*\* Heavy Duty Pilaster Shelf Standards and Brackets are used in pairs at each end of shelves mounted between end walls or inside cabinets or bookcases. The 233 standards are designed for projects WITHOUT mortise mounted pilasters, such as cabinets/bookcases, closets, window frames, entertainment centers, and kitchen cabinets. 255 standards are designed for projects WITH mortise mounted pilasters, such as display cases, bookcases, window frames, entertainment centers and kitchen cabinets. Pilaster wall standards mounted to surface or recess mounted (requires dado cut) with mounting hardware. Load rating varies per size and pilaster distance. Contact KV customer service (800-253-1561) for more information.**

G. Heavy Duty Pilaster Shelf Standards and Brackets:

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two shelf standard paragraphs.**

1. Shelf Standard Components: Heavy-Duty 233 single-slotted channel wall standards. Surface mounted standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c.

a. Face: 13/16 inch (20.6 mm) wide by 3/16 inch (4.8 mm) deep, single slotted.

b. Material and Finish:

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs.**

1) Steel, Brass, electroplated; provide nails and/or screws with matching heads.

2) Material and Finish: Steel, Zinc, electroplated; provide nails and/or screws with matching heads.

3) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 24, 36, 48, and 72 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

2. Narrow Shelf Standard Components: Heavy-Duty 255 single-slotted channel wall standards. Surface or Flush mounted standards mounted to a suitable wall surface with mounting hardware 16 inches (406 mm) o.c.

a. Face: 5/8 inch (16 mm) wide by 3/16 inch (4.8 mm) deep, single slotted.

b. Material and Finish:

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Economy Zinc is available for 70 Series only.**

1) Steel, Almond, powder-coat; provide nails and/or screws with matching heads.

2) Steel, Brass, electroplated, clear lacquer; provide nails and/or screws with matching heads.

3) Steel, Brown, powder-coat; provide nails and/or screws with matching heads.

4) Steel, Economy Zinc, zinc-coated; provide nails and/or screws with matching heads.

5) Steel, White, powder-coat; provide nails and/or screws with matching heads.

6) Steel, Zinc, electroplated, clear lacquer; provide nails and/or screws with matching heads.

7) Aluminum, Natural; provide nails and/or screws with matching heads.

8) Aluminum, Brass, powder-coat; provide nails and/or screws with matching heads.

9) Aluminum, Brown, powder-coat; provide nails and/or screws with matching heads.

10) Aluminum, Walnut, powder-coat; provide nails and/or screws with matching heads.

11) Economy Zinc; provide screws with matching heads.

12) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Available in 48, 60, 72, and 96 inch lengths.**

c. Lengths: As indicated on drawings.

d. Lengths: As required to support shelving indicated.

**\*\* NOTE TO SPECIFIER \*\* Select one of the following shelf support paragraphs and finish paragraphs as required. Delete if not required.**

3. Shelving Support for use with 255 standards:

a. Model 256: Steel, Almond, powder-coat.

b. Model 256: Steel, Brass, electroplated.

c. Model 256: Steel, Walnut, electroplated and antiqued.

d. Model 256: Steel, White, powder-coat.

e. Model 256: Steel, Zinc, electroplated.

f. Model 256: Aluminum, Natural.

g. Model 256R, includes Rubber Cushion for Glass Shelves: Steel, Zinc, electroplated.

4. Shelving Support for use with 233 standards:

a. Model 237: Steel, Zinc, zinc-coated.

b. Model 238, includes Shelving Locator Tab. Steel, Anochrome, electro-zinc plated

c. Material and Finish: Model 242, for Wire Shelves: Steel, Anochrome, electro-zinc plated.

5. Shelving Support for use with 233 or 255 standards:

a. Model 239: Steel, Zinc, zinc-coated.

b. Model 243, 3 inch Shelf Bracket (non-handed, two holes for securing shelf to bracket): Steel, Zinc, electroplated; provide shelf fasteners to match finish.

c. Model 244, for Wire Shelves: Steel, Anochrome, electro-zinc plated.

6. Shelving:

a. Shelving: As indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete if not required.**

7. Closet Rods and Flanges for use with 233 or 255 standards:

a. Closet Rod: 1-1/16 inch (27 mm) OD (outside diameter): As scheduled and indicated on Drawings.

b. Closet Rod Flange: Model 757: For 1-1/16 inch (27 mm) OD (outside diameter) Closet Rod: Steel, Zinc, zinc-coated.

2.3 SHELF BOARDS

**\*\* NOTE TO SPECIFIER \*\* Standard Duty All Purpose Shelf Boards are designed to fit the entire line of KV Brackets and Standard/Bracket Shelving Systems. Also work great with custom and/or commercial/industrial shelving support systems when installed properly. Select those required from the following paragraphs and delete those not required.**

A. Standard Duty All Purpose Shelf Boards: Heavy-Duty 1980 All Purpose Shelf Boards consist of 5/8 inch (16 mm) thick shelf board with square corners for storage and display needs.

1. Performance: Supports up to 200 pounds when properly installed

**\*\* NOTE TO SPECIFIER \*\* Select the color(s) and size(s) required from the following paragraphs and delete those not required.**

2. Finish and Sizes:

a. Black;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

b. Diamond Ash (Gray);

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

c. Espresso;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

d. Maple;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

e. Oak;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

f. Walnut;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

g. White;

**\*\* NOTE TO SPECIFIER \*\* Available in 8 inches by 24 inches, 8 inches by 36 inches, 8 inches by 48 inches, 10 inches by 24 inches, 10 inches by 36 inches, 10 inches by 48 inches, 12 inches by 24 inches, 12 inches by 36 inches, 12 inches by 48 inches. 12 inches by 72 inches.**

1) Size: \_\_\_\_\_\_\_\_.

2) Size as indicated on the Drawings.

2.4 ACCESSORlES

**\*\* NOTE TO SPECIFIER \*\* Closet rods and flanges mount to walls, cabinetry or shelving systems in any type of closet setting - mudrooms, bedrooms, attics, coat and clothing closets, laundry rooms and more. Weight load support is dependent upon support system selection, installation method, wall/surface type and environmental conditions. Contact manufacturer for additional information. Select those required form the following paragraphs and delete those not required.**

A. Closet Rods: Commercial grade steel; long-lasting, corrosion resistant finish. Meets and/or exceeds ANSI/BHMA weight load requirements.

**\*\* NOTE TO SPECIFIER \*\* Select the model(s), size(s) and finish required from the following paragraphs and delete those not required.**

1. Round Closet Rod Tubing, Outside Diameter: 1-1/16 inches (27 mm):

a. Model 750 1: 2.0 mm wall thickness; inside diameter: 29/32 inch (23 mm);

1) Finish: Brilliant Chrome; premium double-plated finish, seamless, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 72, 96, 120 and 144 inch lengths.**

2) Length: \_\_\_\_\_\_\_\_.

3) Length as indicated on the Drawings.

b. Model 660 1: 2.2 mm wall thickness; inside diameter: 29/32 inch (23 mm);

1) Finish: Stainless Steel; premium wrapped finish, lock seam, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 72, 96, 120 and 144 inch lengths.**

2) Size: \_\_\_\_\_\_\_\_.

3) Size as indicated on the Drawings.

c. Model 770 1: 2.7 mm wall thickness; inside diameter: 27/32 inch (21 mm);

1) Finish: Brilliant Chrome; premium double-plated finish, seamless, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 72, 96, 120 and 144 inch lengths.**

2) Size: \_\_\_\_\_\_\_\_.

3) Size as indicated on the Drawings.

2. Type: Round Closet Rod Tubing, Outside Diameter: 1-5/16 inches (33 mm).

a. Model 750 5: 2.0 mm wall thickness; inside diameter: 1-5/32 inch (29 mm);

1) Finish: Brilliant Chrome; premium double-plated finish, seamless, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 72, 96, 120 and 144 inch lengths.**

2) Length: \_\_\_\_\_\_\_\_.

3) Length as indicated on the Drawings.

b. Model 770 5: 2.7 mm wall thickness; inside diameter: 1-5/32 inch (29 mm);

1) Finish: Brilliant Chrome; premium double-plated finish, seamless, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 72, 96, 120 and 144 inch lengths.**

2) Size: \_\_\_\_\_\_\_\_.

3) Size as indicated on the Drawings.

3. Type: Oval Closet Rod Tubing, Outside Diameter: 1-3/16 inches (30 mm) by 19/32 inch (15 mm).

a. Model 880 5: 1.2 mm wall thickness; inside diameter: 1-3/32 inch (29 mm) by 1/2 inch (14 mm).

1) Finish: Chrome; single-plated finish, seamless, pit-free.

**\*\* NOTE TO SPECIFIER \*\* Available in 96, and 144 inch lengths.**

2) Length: \_\_\_\_\_\_\_\_.

3) Length as indicated on the Drawings.

B. Closet Rod Flanges: Flanges of commercial grade steel; long-lasting, corrosion resistant finish. Meets and/or exceeds ANSI/BHMA weight load requirements.

**\*\* NOTE TO SPECIFIER \*\* Select the size(s) and finish(s) required from the following paragraphs and delete those not required.**

1. Closet Rods: Provide as required to suit rods indicated on the Drawings.

a. Round Closet Rod Tubing, Outside Diameter: 1-1/16 inches (27 mm).

1) Model 632 Line Bore Flange: Chrome. Two-5 mm pins for pre-drilled applications. One screw hole for extra mounting strength. Provide screws with matching heads.

2) Model 734 Wall-Mount Flange: Finish: Chrome. Two screw holes on vertical 2 inch centers. Screws included.

3) Model 735 Wall-Mount Flange: Finish: Chrome. Two screw holes on horizontal 2 inch centers. Screws included.

4) Model 757 Pilaster Flange: Anochrome. Mounts to 233 or 255 pilaster standards.

5) Model 760 Center Support: Anochrome. Provides 24 inches of center support for longer closet rod runs. Can be cut to size. Screws included.

6) Model 730 End Cap: Anochrome. Use with closet rod with an inside diameter of 29/32 inch (23 mm) (660 or 750 1).

7) Model 731 End Cap: Anochrome. Use with closet rod with an inside diameter of 27/32 inch (21 mm) (770 1).

b. Closet Flanges and End Caps: For 1-5/16 inch (33 mm) OD (outside diameter) Round Closet Rods.

1) Model 764 Wall-Mount Flange: Anochrome. Three holes spaced 1-1/8 inches (29 mm) from center. Screws included.

2) Model 766 Wall-Mount Flange: Two screw holes on 2-1/4 inches (57 mm) (one at 90 degrees). Screws included.

3) Model 732 End Cap: For use with 1-13/64 inches (30 mm) ID (inside diameter) closet rods (750 5 and 770 series).

c. Closet Flanges: For Oval Closet Rods (880 series).

1) Model 881 Oval Line Bore Flange: One screw hole for extra mounting strength (provide screws). Two 5 mm pins for pre-drilled applications.

**\*\* NOTE TO SPECIFIER \*\* Folding L-Brackets for heavy-duty storage and work surface applications when limitations and/or flexibility in space is critical. Contact manufacturer for additional information. Select those required form the following paragraphs and delete those not required.**

C. Folding L-Brackets: Heavy-duty, KV 206 series folding stationary L-bracket; steel: wall-mounted; for 12 inch to 24 inch deep shelving. Includes one-hand release mechanism to open, close, or adjust to 4 positions including 90, 80, 70 and 0 degrees (closed). Meets and/or exceeds ANSI/BHMA weight load requirements.

1. Performance: Mount to wall surface with mounting hardware every 16 inches (406 mm); supports up to 750 pounds per pair of 12 inch brackets and up to 880 pounds per pair of 16 inch brackets when properly installed.

a. Brackets:

1) Finish: Zinc

**\*\* NOTE TO SPECIFIER \*\* Available in 12 inch for use with 12 inch to 16 inch deep shelving and 16 inch for use with 16 inch to 24 inch deep shelving sizes.**

2) Size: \_\_\_\_\_\_\_\_.

3) Size as indicated on the Drawings.

**\*\* NOTE TO SPECIFIER \*\* Stationary L-Brackets for heavy-duty storage and work surface applications. Contact manufacturer for additional information. Select those required form the following paragraphs and delete those not required.**

D. Stationary L-Brackets: Heavy-duty, KV 208 series stationary Ultimate L-Bracket; steel: wall-mounted; for 12 inch to 24 inch deep shelving. Meets and/or exceeds ANSI/BHMA weight load requirements.

1. Performance: Mount to wall surface with mounting hardware every 16 inches (406 mm); supports up to 1,200 pounds per pair of brackets when properly installed.

a. Brackets:

**\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs.**

1) Black, powder-coat; provide screws with matching heads.

2) Titanium, powder-coat; provide screws with matching heads.

3) White, powder-coat; provide screws with matching heads.

4) As scheduled and indicated on Drawings.

**\*\* NOTE TO SPECIFIER \*\* Available in 12 inch for use with 12 inch to 16 inch deep shelving, 16 inch for use with 16 inch to 20 inch deep shelving, 20 inch for use with 20 inch to 24 inch deep shelving and 22 inch for use with 22 inch to 26 inch deep shelving sizes.**

2) Size: \_\_\_\_\_\_\_\_.

3) Size as indicated on the Drawings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare components to receive hardware using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Mount standards to solid backing capable of supporting intended loads. Install standards using fasteners suitable for supporting intended loads.

C. Install brackets as indicated on the Drawings.

**\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if shelving is not provided in this section.**

D. Install shelving, and accessories as indicated on the Drawings.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 SCHEDULES

**\*\* NOTE TO SPECIFIER \*\* Retain Paragraph below if required to suit project requirements. Identify products by name on the Drawings or use this paragraph to define the location of each type of material to be used. The following are some examples of schedule references. Edit as required to suit project or delete and identify products on the Drawings.**

A. :

B. :

END OF SECTION