











SETTING THE INDUSTRY STANDARD

KMC's extensive range of clips and clamps set the industry standard. Developed over many years to meet the needs of thousands of users, our standard products stand today as, perhaps, the most specified parts of their kind for use in safely securing wires, cables, tubes and pipes.

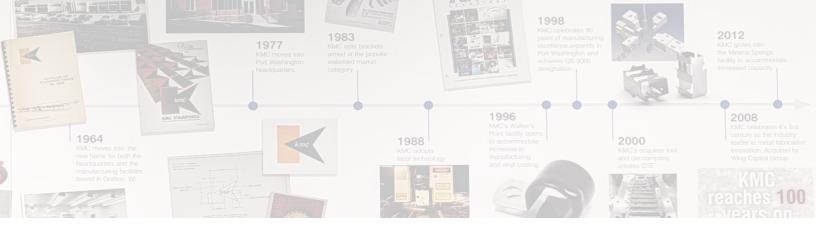
Our clips and clamps are ideal for OEM applications in agricultural, automotive, marine, outdoor power equipment, recreational vehicle, appliance and other industries.

It is our commitment to deliver the highest quality standard components that will perform under pressure and withstand the test of time.

Our standard parts catalog is designed to assist you in finding the standard parts you need.

You will also find this catalog and information regarding our standard catalog parts on our website at www.kmc-original.com.

If you need further assistance, give us a call at 262-377-5030 or email sales@kmc-original.com and we will be glad to assist you.



THE ORIGINAL CLIP & CLAMP COMPANY

We are KMC. We are the original clip and clamp company. Our extensive range of standard products is anything but standard. The sheer quantity of parts and the quality of each product has set the industry standard.

Our customers get high quality components at fair prices. Made in the USA. All parts RoHS and REACH compliant. KMC backs all of its standard components with exceptional in-house engineering, manufacturing and customer service.

KMC has developed an environment where creativity, innovation, employee involvement and customer interaction flourish. Our over 300 dedicated team members, working in over 250,000 square feet of manufacturing space in our four Midwest locations, are ready to serve you.

Trust the original clip and clamp company with your standard component needs.



KMC STANDARD PRODUCTS SELECTION GUIDE

Light Duty Clamps



CFV, CF

Flared edges around clamping loop help prevent wire or tube abrasion. Furnished open to allow the clip to be snapped over wiring or tube, then closed with the bolt at assembly. Contoured to minimize distortion during clamping.

- Round top hole, slotted lower hole for easy alignment
- .187"-1" clamping diameter



CWV, CW

Furnished open to allow the clip to be snapped over wiring or tube, then closed with the bolt at assembly. Contoured to minimize distortion during clamping.

- Round top hole, round lower hole
- .187"-1" clamping diameter

Clamping diameters, materials and other specifications indicated reflect the most commonly used standard products.

The terms "clamp" and "clip" are used interchangeably; however, the general practice is to refer to products having two bolt holes clamps, and products having one bolt hole or no bolt hole as clips.

NOTE: Products with series names ending in "V" are cushioned with 1/32" thick vinyl.

MOST POPULAR clamps for wiring & tubes!

Medium Duty Clamps



cov, co

Furnished open to allow the clip to be snapped over wiring or tube, then closed with the bolt at assembly. Contoured to minimize distortion during clamping.

- Round top hole, slotted lower hole for easy alignment
- .187"-4" clamping diameter



COL

Extruded EPDM cushion for added protection and durability. Offset in lower leg (through 2.75" clamping diameter) to allow flush surface mount. Optional silicone cushion available for high-temperature applications.

- Round top hole, slotted lower hole for easy alignment
- .187"-4" clamping diameter

Heavy Duty Clamps



CCV, CC

Up to .060 gauge clamps for use where maximum clamp strength is required. Furnished closed. Contoured to minimize distortion during clamping.

- Round top hole, round lower hole
- .250"-2" clamping diameter

Double Tube Clamps



CDV, CD

Standard products designed for clamping two tubes of equal diameters.

- Round top hole, slotted lower hole for easy alignment
- .187"-1" clamping diameter



CDL

Featuring an extruded EPDM cushion for added protection and durability. Optional silicone cushion available for high-temperature applications.

- Round top hole, slotted lower hole for easy alignment
- .187"–1.5" clamping diameter



CMV, CM

Allows for separation and holding of two tubes, pipes or conduit between fittings.

- Center mount style
- .375"-.750" clamping diameter

Expansion Plugs



PC

Concave bottom core hole plugs, cup type plugs.

- 1/2"-3" nominal diameter
- Tapered walls

Tube & Wiring Clips



CHV, CH

Half clips used to hold wire or tube against a solid surface.

- .187"-1" clamping diameter



CJV, CJ

For applications where clip is installed first and wiring added later. Clip can be pinched shut with screwdriver blade or pliers.

- .187"-2" clamping diameter



FC

Spring steel clip holds wires to structures such as truck or trailer frames; snap mount. Secures loose, drooping wires.

Two Hole Pipe Straps

ANGLE DESIGN creates snug fit



SP

Conduit retaining strap helps secure conduit to a wall or structure. Inward angle design holds clamp in place for easier installation. Ribbed middle adds strength. Stamped with KMC part # and size for easy reference.

-1/2"-2" clamping diameter

PART NUMBERING SYSTEM

The numbering system used for all KMC parts consists of an alpha prefix, which indicates the type of part, and a numeric suffix that defines the size. Together, they fully identify the part.

Throughout this catalog, a "V" in the prefix indicates that the part is cushioned with 1/32" thick vinyl plastisol.

| Clips & Clam | ps with B | Bolt Mounting Holes | |
|---------------|-----------|---|------|
| PART | PREFIX | EXPLANATION OF PREFIX | PAGE |
| C & | CF | FLARED Edge Clip, Single Tube, Two Bolt Holes (One Slotted) | 8 |
| 6 6 | CW | WIRING Clip, Single Tube, Two Bolt Holes | 9 |
| 18 18 | со | OPEN Clip, Single Tube, Two Bolt Holes (One Slotted) | 10 |
| C | COL | Extruded EPDM Cushion, Single Tube,Two Bolt Holes (One Slotted) | 17 |
| 30 00 | сс | CLOSED Clip, Single Tube, Two Bolt Holes | 25 |
| 68 28 | CD | DOUBLE Clamp, Two Tubes, Two Bolt Holes (One Slotted) | 30 |
| C | CDL | Extruded EPDM Cushion, Two Tubes, Two Bolt Holes (One Slotted) | 32 |
| AP POS | СМ | DOUBLE Clamp, Two Tubes, One Center-Mount Bolt Hole | 29 |
| PO 800 | СН | HALF Clip, Single Tube, One Bolt Hole | 36 |
| So Sto | CJ | "J" Clip, Single Tube, One Bolt Hole | 38 |
| Straps with E | Bolt Mou | nting Holes | |
| 5 | SP | PIPE STRAP, Single Tube, Two Bolt Holes | 34 |
| Clips without | Bolt Ho | les | |
| *** | FC | FRAME Clip, Push-On Spring Clips for Holding Wires on Structural Shapes | 35 |
| Plugs | | | |
| | PC | PLUG, Cup Type, Concave Bottom | 40 |

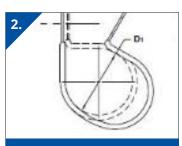
HOW TO USE THIS CATALOG



Style/Type

1. Determine Part Type

- Light-duty Clamps
- Medium-duty Clamps
- Heavy-duty Clamps
- Double Tube Clamps
- Tube, Wiring & Clips



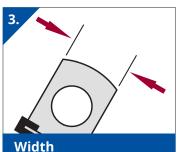
Diameter

2. Determine Clamping Diameter

Examples

CO-**09**09 = .562" clamp diameter

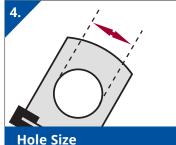
COV-**09**09 = .500" clamp diameter



3. Determine Clamping Width

Examples

COV-0909 = .500" wide



4. Determine Mounting Bolt Size

Examples

COV-09**09** = .281" mounting hole diameter



Finish/Plating

5. Determine Finish/ Plating

- Z1 Hot-dipped Zinc, Galvanized
- Z2 Zinc, Clear



Clamp Material

6. Determine Clamp Material

- 1008 Steel
- 304 Stainless Steel
- 5052 Aluminum



Cushion Material

7. Determine Cushion Material

- Vinyl (black)
- EPDM (black)
- Silicone (red/orange)



Part Number Part Series Width/HoleSize (3&4) COV-0909Z1 Vinyl Coated (7) Material & Finish (5&6) Clamp Diameter (2)

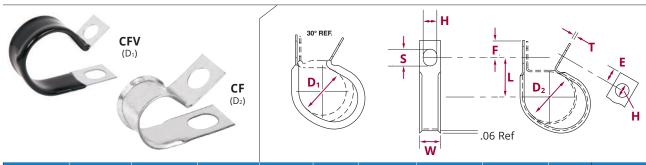
FLARED EDGE CLAMPS Closed Type – Furnished Open

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

CFV-CF: Parts Have One Round and One Slotted Hole

FINISH: 21 - HD Galv Steel, Chem Treated G90 Z2 - .0002 min Zinc, Clear



| D ₁ | | D ₂ | | L | W | Н | E | F | S | Т |
|-----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-----------------------|----------------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Slot Center To End | Slot Length | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.015 | ±.020 | ±.002 |
| | | | CF-0309 | .468 | .500 | .281 | .250 | .296 | .375 | .032 |
| | | .187 | CF-0311 | .500 | .562 | .343 | .281 | .328 | .437 | .032 |
| | | | CF-0313 | .562 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0409 | | CF-0409 | .500 | .500 | .281 | .250 | .296 | .375 | .032 |
| .187 | CFV-0411 | .250 | CF-0411 | .531 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0413 | | CF-0413 | .593 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0509 | | CF-0509 | .531 | .500 | .281 | .250 | .296 | .375 | .032 |
| .250 | CFV-0511 | .312 | CF-0511 | .562 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0513 | | CF-0513 | .625 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0609 | | CF-0609 | .562 | .500 | .281 | .250 | .296 | .375 | .032 |
| .312 | CFV-0611 | .375 | CF-0611 | .594 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0613 | | CF-0613 | .656 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0709 | | CF-0709 | .593 | .500 | .281 | .250 | .296 | .375 | .032 |
| .375 | CFV-0711 | .437 | CF-0711 | .625 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0713 | | CF-0713 | .687 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0809 | | CF-0809 | .625 | .500 | .281 | .250 | .296 | .375 | .032 |
| .437 | CFV-0811 | .500 | CF-0811 | .656 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0813 | | CF-0813 | .718 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-0909 | | CF-0909 | .656 | .500 | .281 | .250 | .296 | .375 | .032 |
| .500 | CFV-0911 | .562 | CF-0911 | .688 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-0913 | | CF-0913 | .750 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1009 | | CF-1009 | .687 | .500 | .281 | .250 | .296 | .375 | .032 |
| .562 | CFV-1011 | .625 | CF-1011 | .719 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1013 | | CF-1013 | .781 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1109 | | CF-1109 | .718 | .500 | .281 | .250 | .296 | .375 | .032 |
| .625 | CFV-1111 | .687 | CF-1111 | .750 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1113 | | CF-1113 | .812 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1209 | | CF-1209 | .750 | .500 | .281 | .250 | .296 | .375 | .032 |
| .687 | CFV-1211 | .750 | CF-1211 | .781 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1213 | | CF-1213 | .843 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1309 | _ | CF-1309 | .781 | .500 | .281 | .250 | .296 | .375 | .032 |
| .750 | CFV-1311 | .812 | CF-1311 | .812 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1313 | | CF-1313 | .875 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1409 | | CF-1409 | .812 | .500 | .281 | .250 | .296 | .375 | .032 |
| .812 | CFV-1411 | .875 | CF-1411 | .844 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1413 | | CF-1413 | .906 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1509 | | CF-1509 | .843 | .500 | .281 | .250 | .296 | .375 | .032 |
| .875 | CFV-1511 | .937 | CF-1511 | .875 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1513 | | CF-1513 | .937 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1609 | 1 | CF-1609 | .875 | .500 | .281 | .250 | .296 | .375 | .032 |
| .937 | CFV-1611 | 1.000 | CF-1611 | .906 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1613 | | CF-1613 | .968 | .625 | .406 | .312 | .359 | .500 | .032 |
| | CFV-1709 | - | CF-1709 | .906 | .500 | .281 | .250 | .296 | .375 | .032 |
| 1.000 | CFV-1711 | 1.062 | CF-1711 | .938 | .562 | .343 | .281 | .328 | .437 | .032 |
| | CFV-1713 | | CF-1713 | 1.000 | .625 | .406 | .312 | .359 | .500 | .032 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

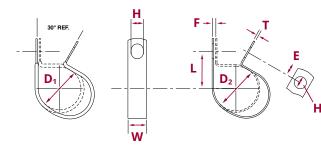
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick **CWV-CW:** Parts Have Two Round Holes

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0003 min Zinc, Clear





| | | | | • | | | | | | |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|--|
| D ₁ | | D ₂ | | L | W | Н | E | F | T | |
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | |
| | | .187 | CW-0305 | 0.415 | .375 | .172 | .187 | .062 | .032 | |
| | | .107 | CW-0307 | 0.430 | .500 | .203 | .218 | .062 | .032 | |
| .187 | CWV-0405 | 250 | CW-0405 | 0.447 | .375 | .172 | .187 | .062 | .032 | |
| .10/ | CWV-0407 | .250 | CW-0407 | 0.462 | .500 | .203 | .218 | .062 | .032 | |
| 250 | CWV-0505 | 242 | CW-0505 | 0.478 | .375 | .172 | .187 | .062 | .032 | |
| .250 | CWV-0507 | .312 | CW-0507 | 0.493 | .500 | .203 | .218 | .062 | .032 | |
| 242 | CWV-0605* | 275 | CW-0605 | 0.509 | .375 | .172 | .187 | .062 | .032 | |
| .312 | CWV-0607 | .375 | CW-0607 | 0.524 | .500 | .203 | .218 | .062 | .032 | |
| 275 | CWV-0705 | 427 | CW-0705 | 0.540 | .375 | .172 | .187 | .062 | .032 | |
| .375 | CWV-0707 | .437 | CW-0707 | 0.555 | .500 | .203 | .218 | .062 | .032 | |
| 407 | CWV-0805 | 500 | CW-0805 | 0.571 | .375 | .172 | .187 | .062 | .032 | |
| .437 | CWV-0807 | .500 | CW-0807 | 0.587 | .500 | .203 | .218 | .062 | .032 | |
| 500 | CWV-0905 | 562 | CW-0905 | 0.602 | .375 | .172 | .187 | .062 | .032 | |
| .500 | CWV-0907 | .562 | CW-0907 | 0.618 | .500 | .203 | .218 | .062 | .032 | |
| 563 | CWV-1005 | 625 | CW-1005 | 0.634 | .375 | .172 | .187 | .062 | .032 | |
| .562 | CWV-1007 | .625 | CW-1007 | 0.649 | .500 | .203 | .218 | .062 | .032 | |
| 625 | CWV-1105 | 507 | CW-1105 | 0.665 | .375 | .172 | .187 | .062 | .032 | |
| .625 | CWV-1107 | .687 | CW-1107 | 0.681 | .500 | .203 | .218 | .062 | .032 | |
| .687 | CWV-1207 | .750 | CW-1207 | 0.712 | .500 | .203 | .218 | .062 | .032 | |
| .750 | CWV-1307 | .812 | CW-1307 | 0.743 | .500 | .203 | .218 | .062 | .032 | |
| .812 | CWV-1407 | .875 | CW-1407 | 0.774 | .500 | .203 | .218 | .062 | .032 | |
| .875 | CWV-1507 | .937 | CW-1507 | 0.806 | .500 | .203 | .218 | .062 | .032 | |
| .937 | CWV-1607 | 1.000 | CW-1607 | 0.837 | .500 | .203 | .218 | .062 | .032 | |
| 1.000 | CWV-1707 | 1.062 | CW-1707 | 0.868 | .500 | .203 | .218 | .062 | .032 | |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B; Stainless Steel,

Per ASTM A240/A666; Aluminum, Per ASTM B209

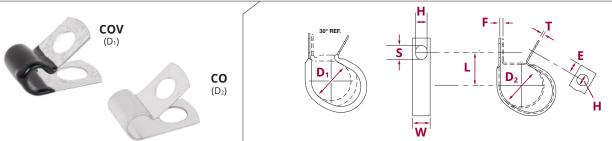
(Aluminum & Stainless Steel not available with cushion)

CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

*Also available in Stainless Steel (.032 material thickness for CO-0609 and .048 material thickness for CO-0809 and larger) *Also available in Aluminum (.032 material thickness for parts CO-0709 or smaller and .050 material thickness for parts CO-0809 or larger)



| \mathbf{D}_1 | | D ₂ | | L | W | Н | Е | F | Т | S |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | | | CO-0309* | .468 | .500 | .281 | .312 | .031 | .032 | .375 |
| | | .187 | CO-0311 | .531 | .625 | .343 | .375 | .031 | .032 | .437 |
| | | | CO-0313 | .593 | .750 | .406 | .437 | .031 | .032 | .500 |
| | COV-0409 | | CO-0409* | .500 | .500 | .281 | .312 | .031 | .032 | .375 |
| .187 | COV-0411 | .250 | CO-0411 | .562 | .625 | .343 | .375 | .031 | .032 | .437 |
| .107 | COV-0413 | .230 | CO-0413 | .625 | .750 | .406 | .437 | .031 | .032 | .500 |
| | COV-0415 | | CO-0415 | .687 | .750 | .468 | .500 | .031 | .032 | .562 |
| | COV-0509 | | CO-0509* | .531 | .500 | .281 | .312 | .031 | .032 | .375 |
| | COV-0511 | | CO-0511 | .593 | .625 | .343 | .375 | .031 | .032 | .437 |
| .250 | COV-0513 | .312 | CO-0513 | .656 | .750 | .406 | .437 | .031 | .032 | .500 |
| | COV-0515 | | CO-0515 | .718 | .750 | .468 | .500 | .031 | .032 | .562 |
| | COV-0517 | | CO-0517 | .781 | .875 | .531 | .562 | .031 | .032 | .625 |
| | COV-0609 | | CO-0609** | .562 | .500 | .281 | .312 | .031 | .032 | .375 |
| | COV-0611 | | CO-0611 | .625 | .625 | .343 | .375 | .031 | .032 | .437 |
| .312 | COV-0613 | .375 | CO-0613 | .687 | .750 | .406 | .437 | .031 | .032 | .500 |
| | COV-0615 | | CO-0615 | .750 | .750 | .468 | .500 | .031 | .032 | .562 |
| | COV-0617 | | CO-0617 | .812 | .875 | .531 | .562 | .031 | .032 | .625 |
| | COV-0709 | | CO-0709* | .593 | .500 | .281 | .312 | .062 | .032 | .375 |
| | COV-0711 | | CO-0711 | .656 | .625 | .343 | .375 | .062 | .032 | .437 |
| .375 | COV-0713 | .437 | CO-0713 | .718 | .750 | .406 | .437 | .062 | .032 | .500 |
| | COV-0715 | | CO-0715 | .781 | .875 | .468 | .500 | .062 | .032 | .562 |
| | COV-0717 | | CO-0717 | .843 | .875 | .531 | .562 | .062 | .032 | .625 |
| | COV-0809 | | CO-0809** | .625 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-0811 | | CO-0811 | .687 | .625 | .343 | .375 | .062 | .048 | .437 |
| .437 | COV-0813 | .500 | CO-0813 | .750 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-0815 | | CO-0815 | .812 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-0817 | | CO-0817 | .875 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-0909 | | CO-0909* | .656 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-0911 | | CO-0911 | .718 | .625 | .343 | .375 | .062 | .048 | .437 |
| .500 | COV-0913 | .562 | CO-0913 | .781 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-0915 | | CO-0915 | .843 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-0917 | | CO-0917 | .906 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1009 | | CO-1009* | .687 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1011 | | CO-1011 | .750 | .625 | .343 | .375 | .062 | .048 | .437 |
| .562 | COV-1013 | .625 | CO-1013 | .812 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1015 | | CO-1015 | .875 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1017 | | CO-1017 | .937 | 1.000 | .531 | .562 | .062 | .048 | .625 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B; Stainless Steel, Per ASTM A240/A666; Aluminum, Per ASTM B209

FINISH: Z1 - HD Galv Steel, Chem Treated G90

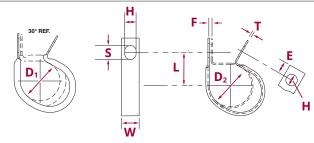
Z2 - .0002 min Zinc, Clear

(Aluminum & Stainless Steel not available with cushion)

CUSHION: Black Vinyl, 1/32" Thick

*Also available in Stainless Steel (.032 material thickness for CO-0609 and .048 material thickness for CO-0809 and larger) *Also available in Aluminum (.032 material thickness for parts CO-0709 or smaller and .050 material thickness for parts CO-0809 or larger)





| D ₁ | | D ₂ | | L | W | Н | Е | F | T | S |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-1109 | | CO-1109* | .718 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1111 | | CO-1111 | .781 | .625 | .343 | .375 | .062 | .048 | .437 |
| .625 | COV-1113 | .687 | CO-1113 | .843 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1115 | | CO-1115 | .906 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1117 | | CO-1117 | .968 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1209 | | CO-1209** | .750 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1211 | | CO-1211 | .812 | .625 | .343 | .375 | .062 | .048 | .437 |
| .687 | COV-1213 | .750 | CO-1213 | .875 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1215 | | CO-1215 | .937 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1217 | | CO-1217 | 1.000 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1309 | | CO-1309* | .781 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1311 | | CO-1311 | .843 | .625 | .343 | .375 | .062 | .048 | .437 |
| .750 | COV-1313 | .812 | CO-1313 | .906 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1315 | | CO-1315 | .968 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1317 | | CO-1317 | 1.031 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1409 | | CO-1409* | .812 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1411 | | CO-1411 | .875 | .625 | .343 | .375 | .062 | .048 | .437 |
| .812 | COV-1413 | .875 | CO-1413 | .937 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1415 | | CO-1415 | 1.000 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1417 | | CO-1417 | 1.062 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1509 | | CO-1509* | .843 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1511 | | CO-1511 | .906 | .625 | .343 | .375 | .062 | .048 | .437 |
| .875 | COV-1513 | .937 | CO-1513 | .968 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1515 | | CO-1515 | 1.031 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1517 | | CO-1517 | 1.093 | 1.000 | .531 | .562 | .062 | .048 | .625 |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B; Stainless Steel,

Per ASTM A240/A666; Aluminum, Per ASTM B209

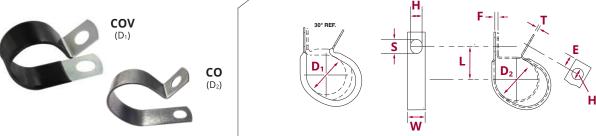
(Aluminum & Stainless Steel not available with cushion)

CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

*Also available in Stainless Steel (.032 material thickness for CO-0609 and .048 material thickness for CO-0809 and larger) *Also available in Aluminum (.032 material thickness for parts CO-0709 or smaller and .050 material thickness for parts CO-0809 or larger)



| D ₁ | | D ₂ | | L | W | Н | E | F | Т | S |
|----------------------|----------------|----------------------|----------------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-1609 | | CO-1609** | .875 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1611 | | CO-1611 | .937 | .625 | .343 | .375 | .062 | .048 | .437 |
| .937 | COV-1613 | 1.000 | CO-1613 | 1.000 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1615 | | CO-1615 | 1.062 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1617 | | CO-1617 | 1.125 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1709 | | CO-1709 [†] | .906 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1711 | | CO-1711 | .968 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.000 | COV-1713 | 1.062 | CO-1713 | 1.031 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1715 | | CO-1715 | 1.093 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1717 | | CO-1717 | 1.156 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1809 | | CO-1809 [†] | .937 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1811 | | CO-1811 | 1.000 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.062 | COV-1813 | 1.125 | CO-1813 | 1.062 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1815 | | CO-1815 | 1.125 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1817 |] | CO-1817 | 1.187 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-1909 | | CO-1909 [†] | .968 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-1911 | | CO-1911 | 1.031 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.125 | COV-1913 | 1.187 | CO-1913 | 1.093 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-1915 |] | CO-1915 | 1.156 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-1917 | | CO-1917 | 1.218 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2009 | | CO-2009** | 1.000 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2011 | | CO-2011 | 1.062 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.187 | COV-2013 | 1.250 | CO-2013 | 1.125 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2015 | | CO-2015 | 1.187 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2017 | | CO-2017 | 1.250 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2109 | | CO-2109 [†] | 1.031 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2111 | | CO-2111 | 1.093 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.250 | COV-2113 | 1.312 | CO-2113 | 1.156 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2115 | | CO-2115 | 1.218 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2117 | | CO-2117 | 1.281 | 1.000 | .531 | .562 | .062 | .048 | .625 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

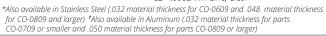
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B; Stainless Steel, Per ASTM A240/A666; Aluminum, Per ASTM B209

FINISH: Z1 - HD Galv Steel, Chem Treated G90

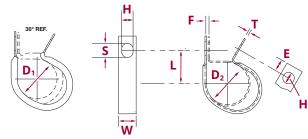
Z2 - .0002 min Zinc, Clear

(Aluminum & Stainless Steel not available with cushion)

CUSHION: Black Vinyl, 1/32" Thick







| D ₁ | | D ₂ | | L | w | Н | E | F | T | S |
|-----------------------|----------------|----------------------|----------------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-2209 | | CO-2209 [†] | 1.062 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2211 | | CO-2211 | 1.125 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.312 | COV-2213 | 1.375 | CO-2213 | 1.187 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2215 | | CO-2215 | 1.250 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2217 | | CO-2217 | 1.312 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2309 | | CO-2309 [†] | 1.093 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2311 | | CO-2311 | 1.156 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.375 | COV-2313 | 1.437 | CO-2313 | 1.218 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2315 | | CO-2315 | 1.281 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2317 | | CO-2317 | 1.343 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2409 | | CO-2409*† | 1.125 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2411 | | CO-2411 | 1.187 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.437 | COV-2413 | 1.500 | CO-2413 | 1.250 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2415 | | CO-2415 | 1.312 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2417 | | CO-2417 | 1.375 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2509 | | CO-2509 [†] | 1.156 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2511 | | CO-2511 | 1.218 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.500 | COV-2513 | 1.562 | CO-2513 | 1.281 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2515 | | CO-2515 | 1.343 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2517 | | CO-2517 | 1.406 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2609 | | CO-2609† | 1.187 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2611 | | CO-2611 | 1.250 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.562 | COV-2613 | 1.625 | CO-2613 | 1.312 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2615 | | CO-2615 | 1.375 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2617 | | CO-2617 | 1.437 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2709 | | CO-2709† | 1.218 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2711 | | CO-2711 | 1.281 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.625 | COV-2713 | 1.687 | CO-2713 | 1.343 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2715 | | CO-2715 | 1.406 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2717 | | CO-2717 | 1.468 | 1.000 | .531 | .562 | .062 | .048 | .625 |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B; Stainless Steel,

Per ASTM A240/A666; Aluminum, Per ASTM B209

(Aluminum & Stainless Steel not available with cushion)

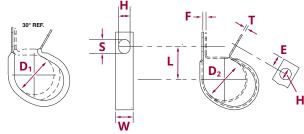
CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

*Also available in Stainless Steel (.032 material thickness for CO-0609 and .048 material thickness for CO-0809 and larger) *Also available in Aluminum (.032 material thickness for parts CO-0709 or smaller and .050 material thickness for parts CO-0809 or larger)





| | | | | | | | - | _ | | c |
|-------------------------|----------|----------------|-----------|----------------|-------|-----------|------------------|-------|---------------|-----------|
| D ₁ Clamping | Part | D₂ Clamping | Part | L Center To | W | H Hole | E Hole Center | F | T Material | S Slot |
| Diameter | Number | Diameter | Number | Center | Width | Diameter | To End | Gap | Thickness | Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-2809 | | CO-2809*† | 1.250 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2811 | | CO-2811 | 1.312 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.687 | COV-2813 | 1.750 | CO-2813 | 1.375 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2815 | | CO-2815 | 1.437 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2817 | | CO-2817 | 1.500 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-2909 | | CO-2909* | 1.281 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-2911 | | CO-2911 | 1.343 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.750 | COV-2913 | 1.812 | CO-2913 | 1.406 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-2915 | | CO-2915 | 1.468 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-2917 | | CO-2917 | 1.531 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3009 | | CO-3009* | 1.312 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3011 | | CO-3011 | 1.375 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.812 | COV-3013 | 1.875 | CO-3013 | 1.437 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3015 | | CO-3015 | 1.500 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3017 | | CO-3017 | 1.562 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3109 | | CO-3109* | 1.343 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3111 | | CO-3111 | 1.406 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.875 | COV-3113 | 1.937 | CO-3113 | 1.468 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3115 | - | CO-3115 | 1.531 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3117 | | CO-3117 | 1.593 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3209 | | CO-3209** | 1.375 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3211 | | CO-3211 | 1.437 | .625 | .343 | .375 | .062 | .048 | .437 |
| 1.937 | COV-3213 | 2.000 | CO-3213 | 1.500 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3215 | | CO-3215 | 1.562 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3217 | | CO-3217 | 1.625 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3309 | | CO-3309 | 1.437 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3311 | | CO-3311 | 1.500 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.000 | COV-3313 | 2.062 | CO-3313 | 1.562 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3315 | - | CO-3315 | 1.625 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3317 | | CO-3317 | 1.687 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | 1 | | 1 22 33 | 1 | | L | 1 | | | 5 |

1 /

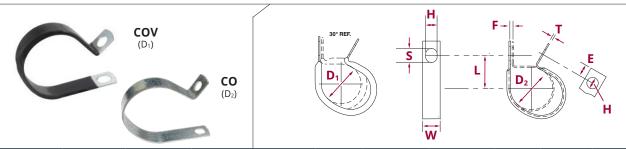
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

COV-CO: Parts Have One Round and One Slotted Hole

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



| D_1 | | D ₂ | | L | w | Н | E | F | Т | S |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-3409 | | CO-3409 | 1.468 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3411 | | CO-3411 | 1.531 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.062 | COV-3413 | 2.125 | CO-3413 | 1.593 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3415 | | CO-3415 | 1.656 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3417 | | CO-3417 | 1.718 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3509 | | CO-3509 | 1.500 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3511 | | CO-3511 | 1.562 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.125 | COV-3513 | 2.187 | CO-3513 | 1.625 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3515 | | CO-3515 | 1.688 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3517 | | CO-3517 | 1.750 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3609 | | CO-3609 | 1.531 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3611 | | CO-3611 | 1.593 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.187 | COV-3613 | 2.250 | CO-3613 | 1.656 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3615 | | CO-3615 | 1.718 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3617 | | CO-3617 | 1.781 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3709 | | CO-3709 | 1.562 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3711 | | CO-3711 | 1.625 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.250 | COV-3713 | 2.312 | CO-3713 | 1.687 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3715 | | CO-3715 | 1.750 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3717 | | CO-3717 | 1.812 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-3909 | | CO-3909 | 1.625 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-3911 | | CO-3911 | 1.687 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.375 | COV-3913 | 2.437 | CO-3913 | 1.750 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-3915 | | CO-3915 | 1.812 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-3917 | | CO-3917 | 1.875 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-4109 | | CO-4109 | 1.687 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-4111 | | CO-4111 | 1.750 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.500 | COV-4113 | 2.562 | CO-4113 | 1.812 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-4115 | | CO-4115 | 1.875 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-4117 | | CO-4117 | 1.937 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-4309 | | CO-4309 | 1.750 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-4311 | | CO-4311 | 1.812 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.625 | COV-4313 | 2.687 | CO-4313 | 1.875 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-4315 | | CO-4315 | 1.937 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-4317 | | CO4317 | 2.000 | 1.000 | .531 | .562 | .062 | .048 | .625 |

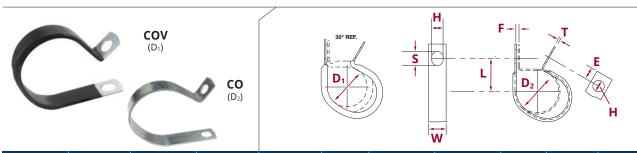
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

COV-CO: Parts Have One Round and One Slotted Hole

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



| D ₁ | | D ₂ | | L | w | Н | Е | F | T | S |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|----------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness | Slot Length |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 | ±.020 |
| | COV-4509 | | CO-4509 | 1.812 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-4511 | | CO-4511 | 1.875 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.750 | COV-4513 | 2.812 | CO-4513 | 1.937 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-4515 | | CO-4515 | 2.000 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-4517 | | CO-4517 | 2.062 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-4709 | | CO-4709 | 1.875 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-4711 | | CO-4711 | 1.937 | .625 | .343 | .375 | .062 | .048 | .437 |
| 2.875 | COV-4713 | 2.937 | CO-4713 | 2.000 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-4715 | | CO-4715 | 2.062 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-4717 | | CO-4717 | 2.125 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-4909 | | CO-4909 | 1.937 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-4911 | | CO-4911 | 2.000 | .625 | .343 | .375 | .062 | .048 | .437 |
| 3.000 | COV-4913 | 3.062 | CO-4913 | 2.062 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-4915 | | CO-4915 | 2.125 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-4917 | | CO-4917 | 2.187 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-5309 | | CO-5309 | 2.062 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-5311 | | CO-5311 | 2.125 | .625 | .343 | .375 | .062 | .048 | .437 |
| 3.250 | COV-5313 | 3.312 | CO-5313 | 2.187 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-5315 | | CO-5315 | 2.250 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-5317 | | CO-5317 | 2.312 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-5709 | | CO-5709 | 2.187 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-5711 | | CO-5711 | 2.250 | .625 | .343 | .375 | .062 | .048 | .437 |
| 3.500 | COV-5713 | 3.562 | CO-5713 | 2.312 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-5715 | | CO-5715 | 2.375 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-5717 | | CO-5717 | 2.437 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-6109 | | CO-6109 | 2.312 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-6111 | | CO-6111 | 2.375 | .625 | .343 | .375 | .062 | .048 | .437 |
| 3.750 | COV-6113 | 3.812 | CO-6113 | 2.437 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-6115 | | CO-6115 | 2.500 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-6117 | | CO-6117 | 2.562 | 1.000 | .531 | .562 | .062 | .048 | .625 |
| | COV-6509 | | CO-6509 | 2.437 | .500 | .281 | .312 | .062 | .048 | .375 |
| | COV-6511 | | CO-6511 | 2.500 | .625 | .343 | .375 | .062 | .048 | .437 |
| 4.000 | COV-6513 | 4.062 | CO-6513 | 2.562 | .750 | .406 | .437 | .062 | .048 | .500 |
| | COV-6515 | | CO-6515 | 2.625 | .875 | .468 | .500 | .062 | .048 | .562 |
| | COV-6517 | | CO-6517 | 2.687 | 1.000 | .531 | .562 | .062 | .048 | .625 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

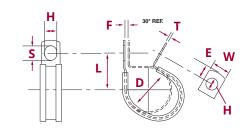
CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12EO34, .060" thickness

OPTIONAL CUSHION: Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness

FINISH: 21 - HD Galv Steel, Chem Treated G90 **COL:** Parts Have One Round and One Slotted Hole



COL (D)



| D | | L | W | S | Н | E | F | Т | | |
|----------|----------------------|-----------|-------|--------|----------|-------------|-------|---------|----------------|-----------|
| Clamping | Part Number | Center To | Width | Slot | Hole | Hole Center | Can | M | aterial Thickn | ess |
| Diameter | Part Number | Center | | Length | Diameter | To End | Gap | HD Galv | Aluminum | Stainless |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 | ±.002 | ±.002 |
| | COL-0309 | .854 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| .187 | COL-0311 | .791 | .625 | .437 | .343 | .375 | .062 | .032 | | 0.032 |
| | COL-0313 | .729 | .750 | .500 | .406 | .437 | .062 | .032 | | 0.032 |
| | COL-0407 COL-0409 | .711 | .500 | .297 | .203 | .250 | .062 | .032 | 0.032 | 0.032 |
| | COL-0403 | .611 | .625 | .437 | .343 | .375 | .062 | .032 | 0.032 | 0.032 |
| .250 | COL-0411 | .656 | .750 | .500 | .406 | .437 | .062 | .032 | | 0.032 |
| | COL-0415 | .718 | .750 | .562 | .468 | .500 | .062 | .032 | | 0.032 |
| | COL-0417 | .781 | 1.000 | .625 | .531 | .562 | .062 | .032 | | 0.032 |
| | COL-0507 | .569 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-0509 | .562 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| | COL-0511 | .625 | .625 | .437 | .343 | .375 | .062 | .032 | | 0.032 |
| .312 | COL-0513 | .687 | .750 | .500 | .406 | .437 | .062 | .032 | | 0.032 |
| | COL-0515 | .750 | .750 | .562 | .468 | .500 | .062 | .032 | | 0.032 |
| | COL-0517 | .812 | 1.000 | .625 | .531 | .562 | .062 | .032 | | 0.032 |
| | COL-0607 | .500 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-0609 | .593 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 075 | COL-0611 | .656 | .625 | .437 | .343 | .375 | .062 | .032 | | 0.032 |
| .375 | COL-0613 | .718 | .750 | .500 | .406 | .437 | .062 | .032 | | 0.032 |
| | COL-0615 | .781 | .750 | .562 | .468 | .500 | .062 | .032 | | 0.032 |
| | COL-0617 | .843 | 1.000 | .625 | .531 | .562 | .062 | .032 | | 0.032 |
| | COL-0707 | .531 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-0709 | .625 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 427 | COL-0711 | .687 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .437 | COL-0713 | .750 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-0715 | .812 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-0717 | .875 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-0807 | .562 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-0809 | .656 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| .500 | COL-0811 | .718 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .JUU | COL-0813 | .781 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-0815 | .843 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-0817 | .906 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |

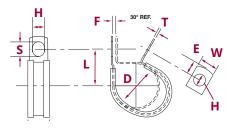
WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12E034, .060" thickness **OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness





| | | 1 | | | 1 | ı | | 1 | | |
|----------------------|-------------|---------------------|-------|----------------|------------------|-----------------------|-------|---------|----------|------------------|
| D | | L | W | S | н | E | F | | Т | |
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | HD Galv | Aluminum | ess Stainless |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 | ±.002 | ±.002 |
| | COL-0907 | .687 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-0909 | .750 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| .562 | COL-0911 | .812 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .302 | COL-0913 | .875 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-0915 | .937 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-0917 | 1.000 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1007 | .718 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1009 | .781 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| (25 | COL-1011 | .843 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .625 | COL-1013 | .906 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1015 | .968 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1017 | 1.031 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1107 | .750 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1109 | .812 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 607 | COL-1111 | .875 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .687 | COL-1113 | .937 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1115 | 1.000 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1117 | 1.062 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1207 | .781 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1209 | .843 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 750 | COL-1211 | .906 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .750 | COL-1213 | .968 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1215 | 1.031 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1217 | 1.095 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1307 | .812 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1309 | .875 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 042 | COL-1311 | .937 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .812 | COL-1313 | 1.000 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1315 | 1.062 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1317 | 1.125 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |

WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

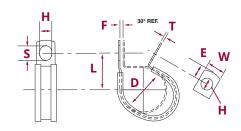
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12EO34, .060" thickness

OPTIONAL CUSHION: Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness





| D | | L | W | S | н | E | F | | Т | |
|----------------------|-------------|---------------------|-------|-----------------|------------------|-----------------------|-------|------------------|-------------------|--------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot | Hole Diameter | Hole Center To End | Gap | | aterial Thickn | |
| ±.031 | | ±.031 | ±.010 | Length ±.020 | ±.005 | ±.015 | ±.031 | HD Galv ±.002 | Aluminum ±.002 | Stainless ±.002 |
| ±.051 | COL-1407 | .843 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1409 | .906 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| | COL-1411 | .968 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .875 | COL-1413 | 1.031 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1415 | 1.093 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1417 | 1.156 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1507 | .875 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1509 | .937 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| .937 | COL-1511 | 1.000 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| .937 | COL-1513 | 1.062 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1515 | 1.125 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1517 | 1.187 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1607 | .906 | .500 | .297 | .203 | .250 | .062 | .032 | | 0.032 |
| | COL-1609 | .968 | .500 | .375 | .281 | .312 | .062 | .032 | 0.032 | 0.032 |
| 1.000 | COL-1611 | 1.031 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.032 |
| 1.000 | COL-1613 | 1.093 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.032 |
| | COL-1615 | 1.156 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.032 |
| | COL-1617 | 1.218 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.032 |
| | COL-1709 | 1.000 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-1711 | 1.062 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.062 | COL-1713 | 1.125 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-1715 | 1.187 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-1717 | 1.250 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-1809 | 1.031 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-1811 | 1.093 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.125 | COL-1813 | 1.156 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-1815 | 1.218 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-1817 | 1.281 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |

WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

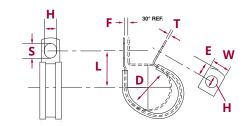
MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12EO34, .060" thickness **OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness

COL





| D | | L | w | S | Н | Е | F | | Т | |
|----------------------|-------------|---------------------|-------|----------------|------------------|-----------------------|-------|---------|----------------|------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | HD Galv | aterial Thickn | ess Stainless |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 | ±.002 | ±.002 |
| | COL-1909 | 1.062 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-1911 | 1.125 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.187 | COL-1913 | 1.187 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-1915 | 1.250 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-1917 | 1.312 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2009 | 1.093 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2011 | 1.156 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.250 | COL-2013 | 1.218 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2015 | 1.281 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2017 | 1.343 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2109 | 1.125 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2111 | 1.187 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.312 | COL-2113 | 1.250 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2115 | 1.312 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2117 | 1.375 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2209 | 1.156 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2211 | 1.218 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.375 | COL-2213 | 1.281 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2215 | 1.343 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2217 | 1.406 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2309 | 1.187 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2311 | 1.250 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.437 | COL-2313 | 1.312 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2315 | 1.375 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2317 | 1.437 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2409 | 1.218 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2411 | 1.281 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.500 | COL-2413 | 1.343 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2415 | 1.406 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2417 | 1.468 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |

WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

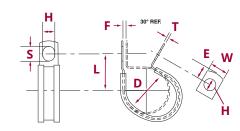
Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12EO34, .060" thickness

OPTIONAL CUSHION: Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness







| D | | L | W | S | Н | E | F | | T | |
|----------|-------------------|------------------------|-------|-----------------|-------------------|------------------------|-------|-------------------------|-------------------|--------------------|
| Clamping | Part Number | Center To | Width | Slot | Hole | Hole Center | Gap | M | aterial Thickn | |
| ±.031 | T di C i talinoci | Center ±.031 | ±.010 | Length ±.020 | Diameter ±.005 | To End ±.015 | ±.031 | HD Galv ±.002 | Aluminum ±.002 | Stainless ±.002 |
| ±.U31 | COL-2509 | 1.250 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2511 | 1.312 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.562 | COL-2513 | 1.375 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2515 | 1.437 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2517 | 1.500 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2609 | 1.281 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2611 | 1.343 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.625 | COL-2613 | 1.406 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2615 | 1.468 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2617 | 1.531 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2709 | 1.312 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2711 | 1.375 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.687 | COL-2713 | 1.437 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2715 | 1.500 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2717 | 1.562 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2809 | 1.343 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2811 | 1.406 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.750 | COL-2813 | 1.468 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2815 | 1.531 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2817 | 1.593 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-2909 | 1.375 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-2911 | 1.437 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.812 | COL-2913 | 1.500 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-2915 | 1.562 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-2917 | 1.624 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3009 | 1.406 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-3011 | 1.468 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.875 | COL-3013 | 1.531 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3015 | 1.593 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3017 | 1.656 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |

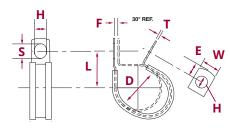
WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12E034, .060" thickness **OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness





| D | | L | W | S | Н | E | F | | Т | |
|----------------------|-------------|---------------------|-------|----------------|------------------|-----------------------|-------|---------|----------------|------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | HD Galv | aterial Thickn | ess Stainless |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 | ±.002 | ±.002 |
| | COL-3109 | 1.437 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-3111 | 1.500 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 1.937 | COL-3113 | 1.562 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3115 | 1.625 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3117 | 1.687 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3209 | 1.500 | .500 | .375 | .281 | .312 | .062 | .048 | 0.050 | 0.048 |
| | COL-3211 | 1.562 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.000 | COL-3213 | 1.625 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3215 | 1.687 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3217 | 1.750 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3309 | 1.531 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-3311 | 1.593 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.062 | COL-3313 | 1.656 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3315 | 1.718 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3317 | 1.781 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3409 | 1.562 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-3411 | 1.625 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.125 | COL-3413 | 1.688 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3415 | 1.750 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3417 | 1.812 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3509 | 1.593 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-3511 | 1.656 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.187 | COL-3513 | 1.718 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3515 | 1.781 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3517 | 1.844 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |

WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

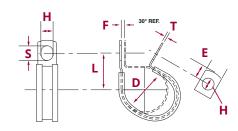
Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12E034, .060" thickness

OPTIONAL CUSHION: Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness







| | | | | | | _ | _ | | | |
|----------------------|-------------|---------------------|-------|----------------|------------------|-----------------------|-------|---------|---------------------|-----------|
| D | | L | W | S | Н | E | F | D.4 | T aterial Thickn | |
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | HD Galv | Aluminum | Stainless |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 | ±.002 | ±.002 |
| | COL-3609 | 1.625 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-3611 | 1.687 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.250 | COL-3613 | 1.750 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3615 | 1.812 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3617 | 1.875 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-3809 | 1.687 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-3811 | 1.750 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.375 | COL-3813 | 1.812 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-3815 | 1.875 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-3817 | 1.937 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-4009 | 1.750 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-4011 | 1.812 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 2.500 | COL-4013 | 1.875 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-4015 | 1.937 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-4017 | 2.000 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-4209 | 1.812 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-4211 | 1.875 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 2.625 | COL-4213 | 1.937 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-4215 | 2.000 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-4217 | 2.062 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | COL-4409 | 1.875 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-4411 | 1.937 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 2.750 | COL-4413 | 2.000 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-4415 | 2.062 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-4417 | 2.125 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |

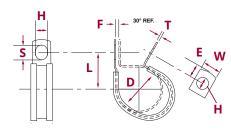
WIRING AND TUBE CLAMPS Closed Type - Furnished Open - Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;

Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12E034, .060" thickness **OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706, .060" thickness





| D | | L | W | S | Н | E | F | | Т | |
|----------------------|-------------|---------------------|-------|-----------------|------------------|-----------------------|-------|------------------|-------------------|--------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot | Hole Diameter | Hole Center To End | Gap | | aterial Thickn | |
| ±.031 | | ±.031 | ±.010 | Length ±.020 | ±.005 | ±.015 | ±.031 | HD Galv ±.002 | Aluminum ±.002 | Stainless ±.002 |
| 2.031 | COL-4609 | 1.937 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-4611 | 2.000 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 2.875 | COL-4613 | 2.062 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-4615 | 2.125 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-4617 | 2.188 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | COL-4809 | 2.000 | .500 | .375 | .281 | .312 | .062 | .048 | | 0.048 |
| | COL-4811 | 2.062 | .625 | .437 | .343 | .375 | .062 | .048 | | 0.048 |
| 3.000 | COL-4813 | 2.125 | .750 | .500 | .406 | .437 | .062 | .048 | | 0.048 |
| | COL-4815 | 2.187 | .750 | .562 | .468 | .500 | .062 | .048 | | 0.048 |
| | COL-4817 | 2.250 | 1.000 | .625 | .531 | .562 | .062 | .048 | | 0.048 |
| | COL-5209 | 2.125 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-5211 | 2.187 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 3.250 | COL-5213 | 2.250 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-5215 | 2.312 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-5217 | 2.375 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | COL-5609 | 2.250 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-5611 | 2.312 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 3.500 | COL-5613 | 2.375 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-5615 | 2.437 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-5617 | 2.500 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | COL-6009 | 2.375 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-6011 | 2.437 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 3.750 | COL-6013 | 2.500 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-6015 | 2.562 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-6017 | 2.625 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | COL-6409 | 2.500 | .500 | .375 | .281 | .312 | .062 | .048 | | |
| | COL-6411 | 2.562 | .625 | .437 | .343 | .375 | .062 | .048 | | |
| 4.000 | COL-6413 | 2.625 | .750 | .500 | .406 | .437 | .062 | .048 | | |
| | COL-6415 | 2.687 | .750 | .562 | .468 | .500 | .062 | .048 | | |
| | COL-6417 | 2.750 | 1.000 | .625 | .531 | .562 | .062 | .048 | | |
| | | | | | | | | | | |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

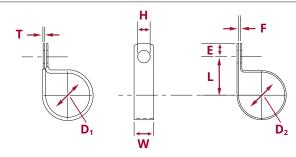
NOTE: CCV-CC Clamps Are Formed Closed — Natural Spring Back Allowed

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CCV-CC: Parts Have Two Round Holes





| D ₁ | | D ₂ | | L | W | Н | E | F | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CCV-0509 | | CC-0509 | .562 | .625 | .281 | .25 | .062 | .032 |
| .250 | CCV-0511 | .312 | CC-0511 | .625 | .625 | .343 | .312 | .062 | .032 |
| | CCV-0513 | | CC-0513 | .688 | .750 | .406 | .375 | .062 | .032 |
| | CCV-0609 | | CC-0609 | .593 | .625 | .281 | .250 | .062 | .032 |
| | CCV-0611 | | CC-0611 | .656 | .625 | .343 | .312 | .062 | .032 |
| .312 | CCV-0613 | .375 | CC-0613 | .718 | .750 | .406 | .375 | .062 | .032 |
| | CCV-0615 | | CC-0615 | .781 | .750 | .468 | .437 | .062 | .032 |
| | CCV-0617 | | CC-0617 | .843 | .875 | .531 | .500 | .062 | .032 |
| | CCV-0709 | | CC-0709 | .625 | .625 | .281 | .250 | .062 | .048 |
| | CCV-0711 | | CC-0711 | .687 | .625 | .343 | .312 | .062 | .048 |
| .375 | CCV-0713 | .437 | CC-0713 | .750 | .750 | .406 | .375 | .062 | .048 |
| | CCV-0715 | | CC-0715 | .812 | .750 | .468 | .437 | .062 | .048 |
| | CCV-0717 | | CC-0717 | .875 | .875 | .531 | .500 | .062 | .048 |
| | CCV-0809 | | CC-0809 | .687 | .625 | .281 | .250 | .062 | .048 |
| | CCV-0811 |] | CC-0811 | .750 | .625 | .343 | .312 | .062 | .048 |
| .437 | CCV-0813 | .500 | CC-0813 | .812 | .750 | .406 | .375 | .062 | .048 |
| | CCV-0815 |] | CC-0815 | .875 | .875 | .468 | .437 | .062 | .048 |
| | CCV-0817 | | CC-0817 | .937 | 1.000 | .531 | .500 | .062 | .048 |
| | CCV-0909 | | CC-0909 | .718 | .625 | .281 | .250 | .062 | .048 |
| | CCV-0911 | | CC-0911 | .781 | .625 | .343 | .312 | .062 | .048 |
| .500 | CCV-0913 | .562 | CC-0913 | .843 | .750 | .406 | .375 | .062 | .048 |
| | CCV-0915 | | CC-0915 | .906 | .875 | .468 | .437 | .062 | .048 |
| | CCV-0917 | | CC-0917 | .968 | 1.000 | .531 | .500 | .062 | .048 |
| | CCV-1009 | | CC-1009 | .750 | .625 | .281 | .250 | .062 | .048 |
| | CCV-1011 | | CC-1011 | .812 | .625 | .343 | .312 | .062 | .048 |
| .562 | CCV-1013 | .625 | CC-1013 | .875 | .750 | .406 | .375 | .062 | .048 |
| | CCV-1015 | | CC-1015 | .937 | .875 | .468 | .437 | .062 | .048 |
| | CCV-1017 | | CC-1017 | 1.000 | 1.000 | .531 | .500 | .062 | .048 |
| | CCV-1109 | | CC-1109 | .781 | .625 | .281 | .250 | .062 | .048 |
| | CCV-1111 | | CC-1111 | .843 | .625 | .343 | .312 | .062 | .048 |
| .625 | CCV-1113 | .687 | CC-1113 | .906 | .750 | .406 | .375 | .062 | .048 |
| | CCV-1115 | | CC-1115 | .968 | .875 | .468 | .437 | .062 | .048 |
| | CCV-1117 | 1 | CC-1117 | 1.031 | 1.000 | .531 | .500 | .062 | .048 |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

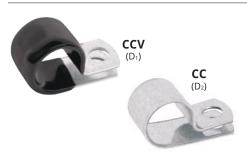
CUSHION: Black Vinyl, 1/32" Thick

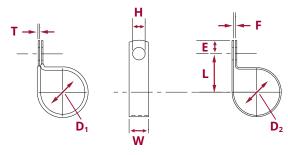
NOTE: CCV-CC Clamps Are Formed Closed — Natural Spring Back Allowed

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CCV-CC: Parts Have Two Round Holes





| D_1 | | D ₂ | | L | W | Н | E | F | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CCV-1209 | | CC-1209 | .843 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1211 | | CC-1211 | .906 | .625 | .343 | .312 | .062 | .060 |
| .687 | CCV-1213 | .750 | CC-1213 | .968 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1215 | | CC-1215 | 1.031 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1217 | | CC-1217 | 1.093 | 1.000 | .531 | .500 | .062 | .060 |
| | CCV-1309 | | CC-1309 | .906 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1311 | | CC-1311 | .968 | .625 | .343 | .312 | .062 | .060 |
| .750 | CCV-1313 | .812 | CC-1313 | 1.031 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1315 | | CC-1315 | 1.093 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1317 | | CC-1317 | 1.156 | 1.000 | .531 | .500 | .062 | .060 |
| | CCV-1409 | | CC-1409 | .937 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1411 | | CC-1411 | 1.000 | .625 | .343 | .312 | .062 | .060 |
| .812 | CCV-1413 | .875 | CC-1413 | 1.062 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1415 | | CC-1415 | 1.125 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1417 | | CC-1417 | 1.187 | 1.000 | .531 | .500 | .062 | .060 |
| | CCV-1509 | | CC-1509 | 1.000 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1511 | | CC-1511 | 1.062 | .625 | .343 | .312 | .062 | .060 |
| .875 | CCV-1513 | .937 | CC-1513 | 1.125 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1515 | | CC-1515 | 1.187 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1517 | | CC-1517 | 1.250 | 1.000 | .531 | .500 | .062 | .060 |
| | CCV-1609 | | CC-1609 | 1.062 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1611 | | CC-1611 | 1.125 | .750 | .343 | .312 | .062 | .060 |
| .937 | CCV-1613 | 1.000 | CC-1613 | 1.187 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1615 | | CC-1615 | 1.250 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1617 | 1 | CC-1617 | 1.312 | 1.000 | .531 | .500 | .062 | .060 |
| | CCV-1709 | | CC-1709 | 1.125 | .625 | .281 | .250 | .062 | .060 |
| | CCV-1711 | 1 | CC-1711 | 1.187 | .750 | .343 | .312 | .062 | .060 |
| 1.000 | CCV-1713 | 1.062 | CC-1713 | 1.250 | .750 | .406 | .375 | .062 | .060 |
| | CCV-1715 | 1 | CC-1715 | 1.312 | .875 | .468 | .437 | .062 | .060 |
| | CCV-1717 | 1 | CC-1717 | 1.375 | 1.000 | .531 | .500 | .062 | .060 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

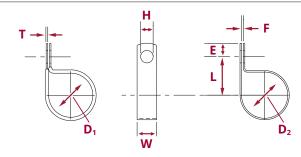
NOTE: CCV-CC Clamps Are Formed Closed — Natural Spring Back Allowed

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CCV-CC: Parts Have Two Round Holes





| D ₁ | | D ₂ | | L | w | Н | E | F | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CCV-1809 | | CC-1809 | 1.156 | .625 | .281 | .250 | .093 | .060 |
| | CCV-1811 | | CC-1811 | 1.218 | .750 | .343 | .312 | .093 | .060 |
| 1.062 | CCV-1813 | 1.125 | CC-1813 | 1.281 | .750 | .406 | .375 | .093 | .060 |
| | CCV-1815 | | CC-1815 | 1.343 | .875 | .468 | .437 | .093 | .060 |
| | CCV-1817 | | CC-1817 | 1.406 | 1.000 | .531 | .500 | .093 | .060 |
| | CCV-1911 | | CC-1911 | 1.250 | .750 | .343 | .312 | .093 | .060 |
| 1.125 | CCV-1913 | 1.187 | CC-1913 | 1.312 | .750 | .406 | .375 | .093 | .060 |
| 1.123 | CCV-1915 | 1,107 | CC-1915 | 1.375 | .875 | .468 | .437 | .093 | .060 |
| | CCV-1917 | | CC-1917 | 1.437 | 1.000 | .531 | .500 | .093 | .060 |
| | CCV-2011 | | CC-2011 | 1.281 | .750 | .343 | .437 | .093 | .060 |
| 1.187 | CCV-2013 | 1.250 | CC-2013 | 1.343 | .750 | .406 | .500 | .093 | .060 |
| 1.10/ | CCV-2015 | 1.230 | CC-2015 | 1.406 | .875 | .468 | .500 | .093 | .060 |
| | CCV-2017 | | CC-2017 | 1.468 | 1.000 | .531 | .562 | .093 | .060 |
| | CCV-2111 | | CC-2111 | 1.312 | .750 | .343 | .437 | .093 | .060 |
| 1 250 | CCV-2113 | 1 212 | CC-2113 | 1.375 | .750 | .406 | .500 | .093 | .060 |
| 1.250 | CCV-2115 | 1.312 | CC-2115 | 1.437 | .875 | .468 | .500 | .093 | .060 |
| | CCV-2117 | | CC-2117 | 1.500 | 1.000 | .531 | .562 | .093 | .060 |
| | CCV-2211 | | CC-2211 | 1.343 | .750 | .343 | .437 | .093 | .060 |
| 4 242 | CCV-2213 | 4 275 | CC-2213 | 1.406 | .750 | .406 | .500 | .093 | .060 |
| 1.312 | CCV-2215 | 1.375 | CC-2215 | 1.468 | .875 | .468 | .500 | .093 | .060 |
| | CCV-2217 | | CC-2217 | 1.531 | 1.000 | .531 | .562 | .093 | .060 |
| | CCV-2311 | | CC-2311 | 1.375 | .750 | .343 | .437 | .093 | .060 |
| 4 275 | CCV-2313 | 4 427 | CC-2313 | 1.437 | .750 | .406 | .500 | .093 | .060 |
| 1.375 | CCV-2315 | 1.437 | CC-2315 | 1.500 | .875 | .468 | .500 | .093 | .060 |
| | CCV-2317 | | CC-2317 | 1.562 | 1.000 | .531 | .562 | .093 | .060 |
| | CCV-2411 | | CC-2411 | 1.437 | .750 | .343 | .437 | .093 | .060 |
| | CCV-2413 | 4.5 | CC-2413 | 1.500 | .750 | .406 | .500 | .093 | .060 |
| 1.437 | CCV-2415 | 1.500 | CC-2415 | 1.562 | .875 | .468 | .500 | .093 | .060 |
| | CCV-2417 | | CC-2417 | 1.625 | 1.000 | .531 | .562 | .093 | .060 |
| | CCV-2511 | | CC-2511 | 1.468 | .750 | .343 | .437 | .125 | .060 |
| | CCV-2513 | | CC-2513 | 1.531 | .750 | .406 | .500 | .125 | .060 |
| 1.500 | CCV-2515 | 1.562 | CC-2515 | 1.593 | .875 | .468 | .500 | .125 | .060 |
| | CCV-2517 | | CC-2517 | 1.656 | 1.000 | .531 | .562 | .125 | .060 |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

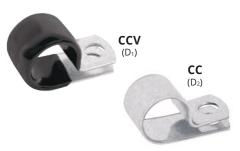
CUSHION: Black Vinyl, 1/32" Thick

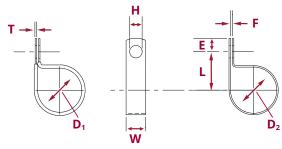
NOTE: CCV-CC Clamps Are Formed Closed — Natural Spring Back Allowed

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CCV-CC: Parts Have Two Round Holes

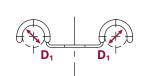


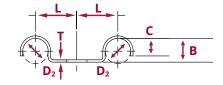


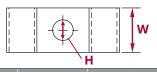
| D_1 | | D ₂ | | L | w | н | E | F | Т |
|----------------------|----------------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CCV-2611 | | CC-2611 | 1.500 | .750 | .343 | .437 | .125 | .060 |
| 1.562 | CCV-2613 | 1.625 | CC-2613 | 1.562 | .750 | .406 | .500 | .125 | .060 |
| 1.302 | CCV-2615 | 1.023 | CC-2615 | 1.625 | .875 | .468 | .500 | .125 | .060 |
| | CCV-2617 | | CC-2617 | 1.687 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-2711 | | CC-2711 | 1.531 | .750 | .343 | .437 | .125 | .060 |
| 1.625 | CCV-2713 | 1.687 | CC-2713 | 1.593 | .750 | .406 | .500 | .125 | .060 |
| 1.023 | CCV-2715 | 1.00/ | CC-2715 | 1.656 | .875 | .468 | .500 | .125 | .060 |
| | CCV-2717 | | CC-2717 | 1.718 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-2811 | | CC-2811 | 1.562 | .750 | .343 | .437 | .125 | .060 |
| 1 (07 | CCV-2813 | 1 750 | CC-2813 | 1.625 | .750 | .406 | .500 | .125 | .060 |
| 1.687 | CCV-2815 | 1.750 | CC-2815 | 1.687 | .875 | .468 | .500 | .125 | .060 |
| | CCV-2817 | | CC-2817 | 1.750 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-2911 | | CC-2911 | 1.625 | .750 | .343 | .437 | .125 | .060 |
| 1.750 | CCV-2913 | 1.012 | CC-2913 | 1.687 | .750 | .406 | .500 | .125 | .060 |
| 1.750 | CCV-2915 | 1.812 | CC-2915 | 1.750 | .875 | .468 | .500 | .125 | .060 |
| | CCV-2917 | | CC-2917 | 1.812 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-3011 | | CC-3011 | 1.656 | .750 | .343 | .437 | .125 | .060 |
| 1.012 | CCV-3013 | 1.075 | CC-3013 | 1.718 | .750 | .406 | .500 | .125 | .060 |
| 1.812 | CCV-3015 | 1.875 | CC-3015 | 1.781 | .875 | .468 | .500 | .125 | .060 |
| | CCV-3017 | | CC-3017 | 1.843 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-3111 | | CC-3111 | 1.687 | .750 | .343 | .437 | .125 | .060 |
| 4.075 | CCV-3113 | 4 007 | CC-3113 | 1.750 | .750 | .406 | .500 | .125 | .060 |
| 1.875 | CCV-3115 | 1.937 | CC-3115 | 1.812 | .875 | .468 | .500 | .125 | .060 |
| | CCV-3117 | | CC-3117 | 1.875 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-3211 | | CC-3211 | 1.781 | .750 | .343 | .437 | .125 | .060 |
| 1.027 | CCV-3213 | 2.000 | CC-3213 | 1.843 | .750 | .406 | .500 | .125 | .060 |
| 1.937 | CCV-3215 | 2.000 | CC-3215 | 1.906 | .875 | .468 | .500 | .125 | .060 |
| | CCV-3217 | | CC-3217 | 1.968 | 1.000 | .531 | .537 | .125 | .060 |
| | CCV-3311 | | CC-3311 | 1.812 | .750 | .343 | .437 | .125 | .060 |
| 2.000 | CCV-3313 | 2.002 | CC-3313 | 1.875 | .750 | .406 | .500 | .125 | .060 |
| 2.000 | CCV-3315 | 2.062 | CC-3315 | 1.937 | .875 | .468 | .500 | .125 | .060 |
| | CCV-3315 CCV-3317 | | CC-3317 | 2.000 | 1.000 | .531 | .537 | .125 | .060 |

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.









| D_1 | | D ₂ | | L | W | Н | В | С | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|--------------------------|---------------------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Base To Top Of Radius | Ref Only Closure | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.015 | ±.002 |
| .375 | CMV-0709 | .437 | CM-0709 | .687 | .750 | .281 | .375 | .343 | .048 |
| .3/3 | CMV-0711 | .437 | CM-0711 | .687 | .750 | .343 | .375 | .343 | .048 |
| .437 | CMV-0809 | .500 | CM-0809 | .812 | .750 | .281 | .437 | .250 | .060 |
| .437 | CMV-0811 | .500 | CM-0811 | .812 | .750 | .343 | .437 | .250 | .060 |
| .500 | CMV-0909 | .562 | CM-0909 | .875 | .750 | .281 | .468 | .400 | .060 |
| .300 | CMV-0911 | .302 | CM-0911 | .875 | .750 | .343 | .468 | .400 | .060 |
| .562 | CMV-1009 | .625 | CM-1009 | .625 | .750 | .281 | .625 | .500 | .060 |
| .302 | CMV-1011 | .023 | CM-1011 | .625 | .750 | .343 | .625 | .500 | .060 |
| .625 | CMV-1109 | .687 | CM-1109 | .625 | 1.000 | .281 | .625 | .437 | .060 |
| | CMV-1209 | | CM-1209* | .875 | .750 | .281 | .718 | .500 | .060 |
| .750 | CMV-1211 | .687 | CM-1211* | .875 | .750 | .343 | .718 | .500 | .060 |
| | CMV-1213 | | CM-1213* | .875 | .750 | .406 | .718 | .500 | .060 |

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

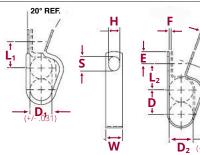
CUSHION: Black Vinyl, 1/32" Thick

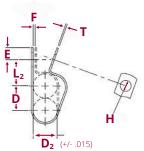
FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CDV-CD: Parts Have One Round and One Slotted Hole







| D | | L ₁ | | L ₂ | W | S | Н | E | F | Т |
|-------------------|----------------|---------------------|----------------|---------------------|-------|----------------|------------------|-----------------------|-------|-----------------------|
| Diameter of Tubes | Part Number | Center To Center | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| | | ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 |
| | | | CD-0307 | .437 | .500 | .203 | .203 | .218 | .031 | .032 |
| .187 | | | CD-0309 | .468 | .500 | .375 | .281 | .312 | .031 | .032 |
| .107 | | | CD-0311 | .531 | .625 | .437 | .343 | .375 | .031 | .032 |
| | | | CD-0313 | .593 | .750 | .500 | .406 | .437 | .031 | .032 |
| | CDV-0407 | .500 | CD-0407 | .468 | .500 | .203 | .203 | .218 | .031 | .032 |
| .250 | CDV-0409 | .531 | CD-0409 | .500 | .500 | .375 | .281 | .312 | .031 | .032 |
| .230 | CDV-0411 | .593 | CD-0411 | .562 | .625 | .437 | .343 | .375 | .031 | .032 |
| | CDV-0413 | .656 | CD-0413 | .625 | .750 | .500 | .406 | .437 | .031 | .032 |
| | CDV-0509 | .562 | CD-0509 | .531 | .500 | .375 | .281 | .312 | .031 | .032 |
| .312 | CDV-0511 | .625 | CD-0511 | .593 | .625 | .437 | .343 | .375 | .031 | .032 |
| | CDV-0513 | .687 | CD-0513 | .656 | .750 | .500 | .406 | .437 | .031 | .032 |
| | CDV-0609 | .593 | CD-0609 | .562 | .500 | .375 | .281 | .312 | .062 | .032 |
| | CDV-0611 | .656 | CD-0611 | .625 | .625 | .437 | .343 | .375 | .062 | .032 |
| .375 | CDV-0613 | .718 | CD-0613 | .687 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDV-0615 | .781 | CD-0615 | .750 | .875 | .562 | .468 | .500 | .062 | .032 |
| | CDV-0617 | .843 | CD-0617 | .812 | 1.000 | .625 | .531 | .562 | .062 | .032 |
| | CDV-0709 | .625 | CD-0709 | .593 | .500 | .375 | .281 | .312 | .062 | .032 |
| | CDV-0711 | .687 | CD-0711 | .656 | .625 | .437 | .343 | .375 | .062 | .032 |
| .437 | CDV-0713 | .750 | CD-0713 | .718 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDV-0715 | .812 | CD-0715 | .781 | .875 | .562 | .468 | .500 | .062 | .032 |
| | CDV-0717 | .875 | CD-0717 | .843 | 1.000 | .625 | .531 | .562 | .062 | .048 |
| | CDV-0809 | .656 | CD-0809 | .625 | .500 | .375 | .281 | .312 | .062 | .048 |
| | CDV-0811 | .718 | CD-0811 | .687 | .625 | .437 | .343 | .375 | .062 | .048 |
| .500 | CDV-0813 | .781 | CD-0813 | .750 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDV-0815 | .843 | CD-0815 | .812 | .875 | .562 | .468 | .500 | .062 | .048 |
| | CDV-0817 | .906 | CD-0817 | .875 | 1.000 | .625 | .531 | .562 | .062 | .048 |
| | CDV-0909 | .687 | CD-0909 | .656 | .500 | .375 | .281 | .312 | .062 | .048 |
| | CDV-0911 | .750 | CD-0911 | .718 | .625 | .437 | .343 | .375 | .062 | .048 |
| .562 | CDV-0913 | .812 | CD-0913 | .781 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDV-0915 | .875 | CD-0915 | .843 | .875 | .562 | .468 | .500 | .062 | .048 |
| | CDV-0917 | .937 | CD-0917 | .906 | 1.000 | .625 | .531 | .562 | .062 | .048 |

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

 $\textbf{MATERIAL:} \ \ \text{HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B}$

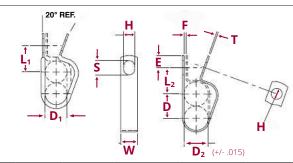
CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear

CDV-CD: Parts Have One Round and One Slotted Hole





| D | | L | | L | W | S | Н | E | F | Т |
|-------------------|----------------|---------------------|----------------|---------------------|-------|----------------|------------------|-----------------------|-------|-----------------------|
| Diameter of Tubes | Part Number | Center To Center | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| | | ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CDV-1009 | .750 | CD-1009 | .718 | .500 | .375 | .281 | .312 | .062 | .048 |
| | CDV-1011 | .781 | CD-1011 | .750 | .625 | .437 | .343 | .375 | .062 | .048 |
| .625 | CDV-1013 | .843 | CD-1013 | .812 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDV-1015 | .906 | CD-1015 | .875 | .875 | .562 | .468 | .500 | .062 | .048 |
| | CDV-1017 | .968 | CD-1017 | .937 | 1.000 | .625 | .531 | .562 | .062 | .048 |
| | CDV-1111 | .812 | CD-1111 | .781 | .625 | .437 | .343 | .375 | .062 | .048 |
| .687 | CDV-1113 | .875 | CD-1113 | .843 | .750 | .500 | .406 | .437 | .062 | .048 |
| .007 | CDV-1115 | .937 | CD-1115 | .906 | .875 | .562 | .468 | .500 | .062 | .048 |
| | CDV-1117 | 1.000 | CD-1117 | .968 | 1.000 | .625 | .531 | .562 | .062 | .048 |
| | CDV-1211 | .843 | CD-1211 | .812 | .625 | .437 | .343 | .375 | .062 | .048 |
| 750 | CDV-1213 | .906 | CD-1213 | .875 | .750 | .500 | .406 | .437 | .062 | .048 |
| .750 | CDV-1215 | .968 | CD-1215 | .937 | .875 | .562 | .468 | .500 | .062 | .048 |
| | CDV-1217 | 1.031 | CD-1217 | 1.000 | 1.000 | .625 | .531 | .562 | .062 | .048 |
| | CDV-1311 | .875 | CD-1311 | .843 | .625 | .437 | .343 | .375 | .062 | .060 |
| 012 | CDV-1313 | .937 | CD-1313 | .906 | .750 | .500 | .406 | .437 | .062 | .060 |
| .812 | CDV-1315 | 1.000 | CD-1315 | .968 | .875 | .562 | .468 | .500 | .062 | .060 |
| | CDV-1317 | 1.062 | CD-1317 | 1.031 | 1.000 | .625 | .531 | .562 | .062 | .060 |
| | CDV-1411 | .906 | CD-1411 | .875 | .625 | .437 | .343 | .375 | .062 | .060 |
| .875 | CDV-1413 | .968 | CD-1413 | .937 | .750 | .500 | .406 | .437 | .062 | .060 |
| .6/5 | CDV-1415 | 1.031 | CD-1415 | 1.000 | .875 | .562 | .468 | .500 | .062 | .060 |
| | CDV-1417 | 1.093 | CD-1417 | 1.062 | 1.000 | .625 | .531 | .562 | .062 | .060 |
| | CDV-1511 | .937 | CD-1511 | .906 | .625 | .437 | .343 | .375 | .062 | .060 |
| 027 | CDV-1513 | 1.000 | CD-1513 | .968 | .750 | .500 | .406 | .437 | .062 | .060 |
| .937 | CDV-1515 | 1.062 | CD-1515 | 1.031 | .875 | .562 | .468 | .500 | .062 | .060 |
| | CDV-1517 | 1.125 | CD-1517 | 1.093 | 1.000 | .625 | .531 | .562 | .062 | .060 |
| | CDV-1611 | .968 | CD-1611 | .937 | .625 | .437 | .343 | .375 | .062 | .060 |
| 1 000 | CDV-1613 | 1.031 | CD-1613 | 1.000 | .750 | .500 | .406 | .437 | .062 | .060 |
| 1.000 | CDV-1615 | 1.093 | CD-1615 | 1.062 | .875 | .562 | .468 | .500 | .062 | .060 |
| | CDV-1617 | 1.156 | CD-1617 | 1.125 | 1.000 | .625 | .531 | .562 | .062 | .060 |

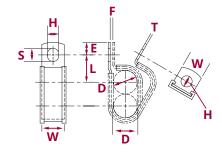
DOUBLE TUBE CLAMPS Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12E034 **OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706

FINISH: 21 - HD Galv Steel, Chem Treated G90 **CDL:** Parts Have One Round and One Slotted Hole





| D | | L | W | S | Н | E | F | Т |
|----------------------|-------------|---------------------|-------|-------------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CDL-0409 | .593 | .500 | .375 | .281 | .312 | .062 | .032 |
| .250 | CDL-0411 | .656 | .625 | .437 | .343 | .375 | .062 | .032 |
| | CDL-0413 | .718 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDL-0509 | .625 | .500 | .375 | .281 | .312 | .062 | .032 |
| .312 | CDL-0511 | .687 | .625 | .437 | .343 | .375 | .062 | .032 |
| | CDL-0513 | .750 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDL-0609 | .656 | .500 | .375 | .281 | .312 | .062 | .032 |
| .375 | CDL-0611 | .718 | .625 | .437 | .343 | .375 | .062 | .032 |
| | CDL-0613 | .781 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDL-0709 | .687 | .500 | .375 | .281 | .312 | .062 | .032 |
| .437 | CDL-0711 | .750 | .625 | .437 | .343 | .375 | .062 | .032 |
| | CDL-0713 | .812 | .750 | .500 | .406 | .437 | .062 | .032 |
| | CDL-0809 | .718 | .500 | .375 | .281 | .312 | .062 | .032 |
| .500 | CDL-0811 | .781 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-0813 | .843 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-0909 | .750 | .500 | .375 | .281 | .312 | .062 | .032 |
| .562 | CDL-0911 | .812 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-0913 | .875 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1009 | .812 | .500 | .375 | .281 | .312 | .062 | .032 |
| .625 | CDL-1011 | .843 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1013 | .906 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1109 | .843 | .500 | .375 | .281 | .312 | .062 | .032 |
| .687 | CDL-1111 | .875 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1113 | .937 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1209 | .875 | .500 | .375 | .281 | .312 | .062 | .032 |
| .750 | CDL-1211 | .906 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1213 | .968 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1309 | .906 | .500 | .375 | .281 | .312 | .062 | .032 |
| .812 | CDL-1311 | .937 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1313 | 1.000 | .750 | .500 | .406 | .437 | .062 | .048 |

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

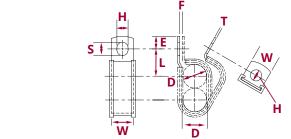
DOUBLE TUBE CLAMPS Extruded Liner

MATERIAL: HD Galv Steel, Per ASTM A653/A653M; Stainless Steel, Per ASTM A240/A666

CUSHION: EPDM per SAE J200/ASTM D2000 BC715A14C12EO34

OPTIONAL CUSHION: Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



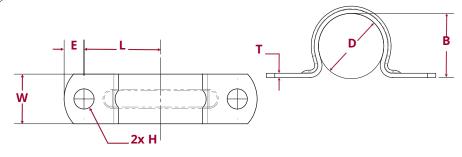


| D | | L | W | S | Н | E | F | Т |
|----------------------|-------------|---------------------|-------|-------------|------------------|-----------------------|-------|-----------------------|
| Clamping Diameter | Part Number | Center To Center | Width | Slot Length | Hole Diameter | Hole Center To End | Gap | Material Thickness |
| ±.031 | | ±.031 | ±.010 | ±.020 | ±.005 | ±.015 | ±.031 | ±.002 |
| | CDL-1409 | .937 | .500 | .375 | .281 | .312 | .062 | .032 |
| .875 | CDL-1411 | .968 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1413 | 1.031 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1509 | .968 | .500 | .375 | .281 | .312 | .062 | .032 |
| .937 | CDL-1511 | 1.000 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1513 | 1.062 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1609 | 1.000 | .500 | .375 | .281 | .312 | .062 | .032 |
| 1.000 | CDL-1611 | 1.031 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1613 | 1.093 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1709 | 1.031 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.062 | CDL-1711 | 1.062 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1713 | 1.125 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1809 | 1.062 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.125 | CDL-1811 | 1.093 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1813 | 1.156 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-1909 | 1.093 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.187 | CDL-1911 | 1.125 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-1913 | 1.187 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-2009 | 1.125 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.250 | CDL-2011 | 1.156 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-2013 | 1.218 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-2109 | 1.156 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.312 | CDL-2111 | 1.187 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-2113 | 1.250 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-2209 | 1.187 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.375 | CDL-2211 | 1.218 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-2213 | 1.281 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-2309 | 1.218 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.437 | CDL-2311 | 1.250 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-2313 | 1.312 | .750 | .500 | .406 | .437 | .062 | .048 |
| | CDL-2409 | 1.250 | .500 | .375 | .281 | .312 | .062 | .048 |
| 1.500 | CDL-2411 | 1.281 | .625 | .437 | .343 | .375 | .062 | .048 |
| | CDL-2413 | 1.343 | .750 | .500 | .406 | .437 | .062 | .048 |

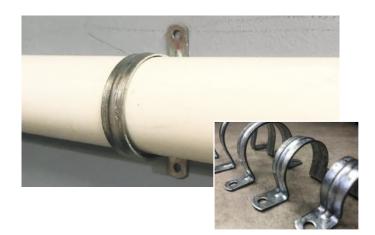
TWO HOLE PIPE STRAP

MATERIAL: HD Galv Steel, ASTM A653/A653M **FINISH:** Z1 - CS, HD Galv Steel, Chem Treated G90





| | D | В | L | W | Н | E | Т |
|-------------|----------------------|----------------------------|---------------------|-------|------------------|-----------------------|-----------------------|
| Part Number | Clamping Diameter | Base to Top of Diameter | Center To Center | Width | Hole Diameter | Hole Center To End | Material Thickness |
| | ±.015 | ±.015 | ±.031 | ±.005 | ±.005 | ±.015 | ±.002 |
| SP-0807 | 0.500 | 0.485 | 0.688 | .500 | .203 | .225 | .048 |
| SP-1207 | 0.750 | 0.735 | 0.813 | .500 | .203 | .225 | .048 |
| SP-1607 | 1.000 | 0.985 | 1.000 | .500 | .203 | .225 | .048 |
| SP-2007 | 1.250 | 1.235 | 1.094 | .500 | .203 | .225 | .048 |
| SP-2407 | 1.500 | 1.485 | 1.188 | .500 | .203 | .225 | .048 |
| SP-2807 | 1.750 | 1.735 | 1.437 | .500 | .203 | .225 | .048 |
| SP-3207 | 2.000 | 1.985 | 1.500 | .500 | .203 | .225 | .048 |

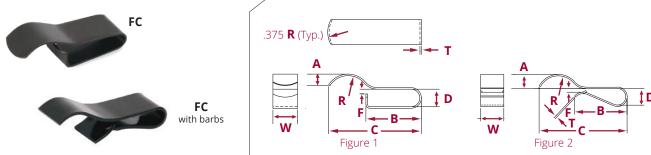


Supportive Mounting

Two-hole rigid straps hold pipes and tubes in place; used to securely mount conduit to wall or other structure for support. Ribbed middle adds strength and the inward angle design assists in holding the clamp in place during installation. The angle design also creates a snug fit that provides extra vibration protection after installation.

MATERIAL: Spring Steel*

FINISH: .00015 Min, Zinc Trivalent Black Chromate, Heat Treat to RC43-48 Blue Spring Temper



| | | R | А | В | С | D | F | Т | W | Use on Thick | Metal ness |
|----------------|--------|-------|-------|-------|--------|-------|-------|-----------------------|-------|-----------------|---------------|
| Part Number | Figure | | | | Length | | | Material Thickness | Width | | |
| | | ±.031 | ±.031 | ±.031 | ±.062 | ±.031 | ±.020 | ±.015 | ±.010 | Min | Max |
| FC-1032H7 | 1 | .250 | .187 | .703 | 1.062 | .156 | .046 | .032 | .500 | .074 | .156 |
| FC-2032H7 | 1 | .375 | .250 | .937 | 1.625 | .186 | .062 | .032 | .500 | .120 | .175 |
| FC-3032H7 | 1 | .375 | .218 | .890 | 1.562 | .344 | .125 | .032 | .500 | .175 | .312 |
| FC-4042H7 | 2 | .312 | .250 | 1.000 | 1.531 | .187 | .100 | .042 | .500 | .074 | .187 |
| FC-5042H7 | 2 | .375 | .406 | 1.062 | 1.812 | .312 | .141 | .042 | .500 | .134 | .312 |

^{*}C-1050 Ann. Spring Steel Heat Treated to Blue Spring Temper.



Secure Wiring

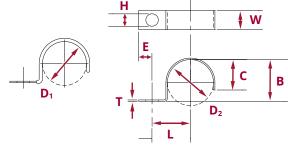
Spring steel clip holds wires to structures such as truck or trailer frames or panel surface. Helps secure loose or drooping wires. Ideal for securing wiring inside automobile chassis; snap mount.

MATERIAL: HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90 Z2 - .0002 min Zinc, Clear





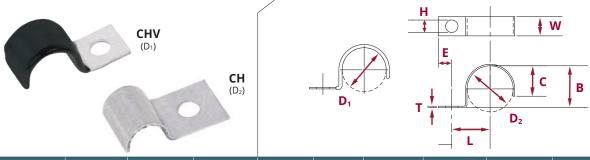
| D ₁ | | D ₂ | | L | W | н | E | В | С | Т |
|-----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|----------------------------|---------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Base To Top Of Diameter | Closure | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.015 | ±.015 | ±.002 |
| | | .187 | CH-0307 | .437 | .500 | .218 | .250 | .156 | .093 | .032 |
| | | .107 | CH-0309 | .437 | .500 | .281 | .250 | .156 | .093 | .032 |
| .187 | CHV-0407 | .250 | CH-0407 | .437 | .500 | .218 | .250 | .188 | .156 | .032 |
| .107 | CHV-0409 | .230 | CH-0409 | .437 | .500 | .281 | .250 | .188 | .156 | .032 |
| | CHV-0507 | | CH-0507 | .500 | .500 | .218 | .250 | .250 | .188 | .048 |
| .250 | CHV-0509 | .312 | CH-0509 | .500 | .500 | .281 | .250 | .250 | .188 | .048 |
| | CHV-0511 | | CH-0511 | .500 | .625 | .343 | .250 | .250 | .188 | .048 |
| | CHV-0607 | | CH-0607 | .531 | .625 | .218 | .312 | .312 | .218 | .048 |
| 212 | CHV-0609 | 275 | CH-0609 | .531 | .625 | .281 | .312 | .312 | .218 | .048 |
| .312 | CHV-0611 | .375 | CH-0611 | .687 | .625 | .343 | .343 | .375 | .218 | .060 |
| | CHV-0613 | | CH-0613 | .687 | .750 | .406 | .343 | .375 | .218 | .060 |
| | CHV-0707 | | CH-0707 | .562 | .625 | .218 | .312 | .375 | .281 | .048 |
| 275 | CHV-0709 | 427 | CH-0709 | .562 | .625 | .281 | .312 | .375 | .281 | .048 |
| .375 | CHV-0711 | .437 | CH-0711 | .687 | .625 | .343 | .375 | .375 | .281 | .060 |
| | CHV-0713 | | CH-0713 | .687 | .750 | .406 | .375 | .375 | .281 | .060 |
| | CHV-0807 | | CH-0807 | .625 | .625 | .218 | .312 | .437 | .312 | .060 |
| 427 | CHV-0809 | F00 | CH-0809 | .625 | .625 | .281 | .312 | .437 | .312 | .060 |
| .437 | CHV-0811 | .500 | CH-0811 | .687 | .625 | .343 | .375 | .437 | .312 | .060 |
| | CHV-0813 | | CH-0813 | .687 | .750 | .406 | .375 | .437 | .312 | .060 |
| | CHV-0907 | | CH-0907 | .687 | .625 | .218 | .312 | .500 | .343 | .060 |
| F00 | CHV-0909 | F(2) | CH-0909 | .687 | .625 | .281 | .312 | .500 | .343 | .060 |
| .500 | CHV-0911 | .562 | CH-0911 | .750 | .625 | .343 | .375 | .500 | .343 | .060 |
| | CHV-0913 | | CH-0913 | .750 | .750 | .406 | .375 | .500 | .343 | .060 |
| | CHV-1007 | | CH-1007 | .750 | .625 | .218 | .312 | .562 | .437 | .060 |
| F(2) | CHV-1009 | 625 | CH-1009 | .750 | .625 | .281 | .312 | .562 | .437 | .060 |
| .562 | CHV-1011 | .625 | CH-1011 | .812 | .625 | .343 | .375 | .562 | .437 | .060 |
| | CHV-1013 | | CH-1013 | .812 | .750 | .406 | .375 | .562 | .437 | .060 |

Except for clamping diameter, dimensions of cushioned and plain parts are identical.

MATERIAL: HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B

CUSHION: Black Vinyl, 1/32" Thick

FINISH: 21 - HD Galv Steel, Chem Treated G90 Z2 - .0002 min Zinc, Clear

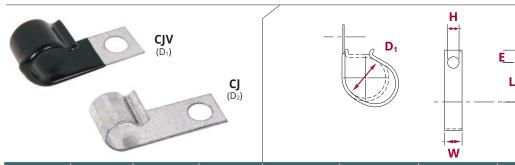


| D ₁ | | D ₂ | | L | W | н | E | В | С | T |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|----------------------------|---------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Base To Top Of Diameter | Closure | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.015 | ±.015 | ±.002 |
| | CHV-1107 | | CH-1107 | .812 | .625 | .218 | .312 | .625 | .406 | .060 |
| .625 | CHV-1109 | .687 | CH-1109 | .812 | .625 | .281 | .312 | .625 | .406 | .060 |
| .025 | CHV-1111 | .007 | CH-1111 | .875 | .625 | .343 | .375 | .625 | .406 | .060 |
| | CHV-1113 | | CH-1113 | .875 | .750 | .406 | .375 | .625 | .406 | .060 |
| | CHV-1207 | | CH-1207 | .812 | .625 | .218 | .312 | .687 | .437 | .060 |
| 607 | CHV-1209 | 750 | CH-1209 | .812 | .625 | .281 | .312 | .687 | .437 | .060 |
| .687 | CHV-1211 | .750 | CH-1211 | .875 | .625 | .343 | .375 | .687 | .437 | .060 |
| | CHV-1213 | | CH-1213 | .875 | .750 | .406 | .375 | .687 | .437 | .060 |
| | CHV-1307 | | CH-1307 | .875 | .625 | .218 | .312 | .750 | .468 | .060 |
| 75.0 | CHV-1309 | 042 | CH-1309 | .875 | .625 | .281 | .312 | .750 | .468 | .060 |
| .750 | CHV-1311 | .812 | CH-1311 | .937 | .625 | .343 | .375 | .750 | .468 | .060 |
| | CHV-1313 | | CH-1313 | .937 | .750 | .406 | .375 | .750 | .468 | .060 |
| | CHV-1409 | | CH-1409 | .937 | .750 | .281 | .375 | .812 | .531 | .060 |
| .812 | CHV-1411 | .875 | CH-1411 | .937 | .750 | .343 | .375 | .812 | .531 | .060 |
| | CHV-1413 | | CH-1413 | .937 | .750 | .406 | .375 | .812 | .531 | .060 |
| | CHV-1509 | | CH-1509 | .968 | .750 | .281 | .437 | .812 | .593 | .060 |
| .875 | CHV-1511 | .937 | CH-1511 | .968 | .750 | .343 | .437 | .812 | .593 | .060 |
| | CHV-1513 | | CH-1513 | .968 | .750 | .406 | .437 | .812 | .593 | .060 |
| | CHV-1609 | | CH-1609 | 1.000 | .750 | .281 | .437 | .937 | .625 | .060 |
| .937 | CHV-1611 | 1.000 | CH-1611 | 1.000 | .750 | .343 | .437 | .937 | .625 | .060 |
| | CHV-1613 | | CH-1613 | 1.000 | .750 | .406 | .437 | .937 | .625 | .060 |
| | CHV-1709 | | CH-1709 | 1.062 | .750 | .281 | .437 | 1.000 | .687 | .060 |
| 1.000 | CHV-1711 | 1.062 | CH-1711 | 1.062 | .750 | .343 | .437 | 1.000 | .687 | .060 |
| | CHV-1713 | | CH-1713 | 1.062 | .750 | .406 | .437 | 1.000 | .687 | .060 |

 $\textbf{MATERIAL:} \ \ \text{HD Galv Steel}, \text{Per ASTM A653/A653M or CRS}, \text{Per ASTM A 1008 CS Type B}$

CUSHION: Black Vinyl, 1/32" Thick

FINISH: 21 - HD Galv Steel, Chem Treated G90 22 - .0002 min Zinc, Clear

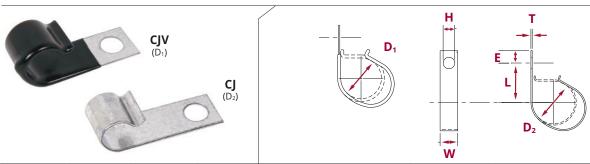


| D_1 | | D ₂ | | L | W | Н | E | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.002 |
| | | | CJ-0309 | .718 | .500 | .281 | .250 | .025 |
| | | .187 | CJ-0311 | .750 | .625 | .343 | .312 | .025 |
| | | | CJ-0313 | .781 | .625 | .406 | .375 | .025 |
| | CJV-0407 | | CJ-0407 | .750 | .500 | .203 | .218 | .032 |
| .187 | CJV-0409 | .250 | CJ-0409 | .781 | .500 | .281 | .250 | .032 |
| .107 | CJV-0411 | .230 | CJ-0411 | .812 | .625 | .343 | .312 | .032 |
| | CJV-0413 | | CJ-0413 | .843 | .750 | .406 | .375 | .032 |
| | CJV-0507 | | CJ-0507 | .812 | .500 | .203 | .218 | .032 |
| .250 | CJV-0509 | .312 | CJ-0509 | .843 | .500 | .281 | .250 | .032 |
| .230 | CJV-0511 | .312 | CJ-0511 | .875 | .625 | .343 | .312 | .032 |
| | CJV-0513 | | CJ-0513 | .906 | .750 | .406 | .375 | .032 |
| | CJV-0607 | | CJ-0607 | .875 | .500 | .203 | .218 | .032 |
| 212 | CJV-0609 | 275 | CJ-0609 | .906 | .500 | .281 | .250 | .032 |
| .312 | CJV-0611 | .375 | CJ-0611 | .937 | .625 | .343 | .312 | .032 |
| | CJV-0613 | | CJ-0613 | .968 | .750 | .406 | .375 | .032 |
| | CJV-0709 | | CJ-0709 | .937 | .500 | .281 | .250 | .032 |
| .375 | CJV-0711 | .437 | CJ-0711 | .963 | .625 | .343 | .312 | .032 |
| | CJV-0713 | | CJ-0713 | 1.000 | .750 | .406 | .375 | .032 |
| | CJV-0809 | | CJ-0809 | 1.000 | .500 | .281 | .250 | .032 |
| .437 | CJV-0811 | .500 | CJ-0811 | 1.031 | .625 | .343 | .312 | .032 |
| | CJV-0813 | | CJ-0813 | 1.062 | .750 | .406 | .375 | .032 |
| | CJV-0909 | | CJ-0909 | 1.062 | .500 | .281 | .250 | .032 |
| .500 | CJV-0911 | .562 | CJ-0911 | 1.093 | .625 | .343 | .312 | .032 |
| | CJV-0913 | | CJ-0913 | 1.125 | .750 | .406 | .375 | .032 |
| | CJV-1009 | | CJ-1009 | 1.125 | .500 | .281 | .250 | .048 |
| .562 | CJV-1011 | .625 | CJ-1011 | 1.156 | .625 | .343 | .312 | .048 |
| | CJV-1013 | | CJ-1013 | 1.187 | .750 | .406 | .375 | .048 |
| | CJV-1109 | | CJ-1109 | 1.187 | .500 | .281 | .250 | .048 |
| .625 | CJV-1111 | .687 | CJ-1111 | 1.218 | .625 | .343 | .312 | .048 |
| | CJV-1113 | | CJ-1113 | 1.250 | .750 | .406 | .375 | .048 |
| | CJV-1209 | | CJ-1209 | 1.250 | .500 | .281 | .250 | .048 |
| .687 | CJV-1211 | .750 | CJ-1211 | 1.281 | .625 | .343 | .312 | .048 |
| | CJV-1213 | | CJ-1213 | 1.312 | .750 | .406 | .375 | .048 |
| | CJV-1309 | | CJ-1309 | 1.250 | .500 | .281 | .250 | .048 |
| .750 | CJV-1311 | .812 | CJ-1311 | 1.281 | .625 | .343 | .312 | .048 |
| | CJV-1313 | | CJ-1313 | 1.312 | .750 | .406 | .375 | .048 |

 $\textbf{MATERIAL:} \ \ \text{HD Galv Steel}, \text{Per ASTM A653/A653M or CRS}, \text{Per ASTM A 1008 CS Type B}$

CUSHION: Black Vinyl, 1/32" Thick

FINISH: Z1 - HD Galv Steel, Chem Treated G90 Z2 - .0002 min Zinc, Clear



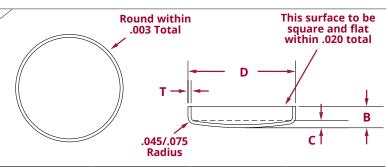
| D ₁ | | D ₂ | | L | W | н | Е | Т |
|----------------------|----------------|----------------------|----------------|---------------------|-------|------------------|-----------------------|-----------------------|
| Clamping Diameter | Part Number | Clamping Diameter | Part Number | Center To Center | Width | Hole Diameter | Hole Center To End | Material Thickness |
| ±.031 | | ±.015 | | ±.031 | ±.010 | ±.005 | ±.015 | ±.002 |
| | CJV-1409 | | CJ-1409 | 1.312 | .500 | .281 | .250 | .048 |
| .812 | CJV-1411 | .875 | CJ-1411 | 1.343 | .625 | .343 | .312 | .048 |
| | CJV-1413 | | CJ-1413 | 1.375 | .750 | .406 | .375 | .048 |
| | CJV-1509 | | CJ-1509 | 1.375 | .500 | .281 | .250 | .048 |
| .875 | CJV-1511 | .937 | CJ-1511 | 1.406 | .625 | .343 | .312 | .048 |
| | CJV-1513 | | CJ-1513 | 1.437 | .750 | .406 | .375 | .048 |
| | CJV-1609 | | CJ-1609 | 1.437 | .500 | .281 | .250 | .048 |
| .937 | CJV-1611 | 1.000 | CJ-1611 | 1.468 | .625 | .343 | .312 | .048 |
| | CJV-1613 | | CJ-1613 | 1.500 | .750 | .406 | .375 | .048 |
| | CJV-1709 | | CJ-1709 | 1.500 | .500 | .281 | .250 | .048 |
| 1.000 | CJV-1711 | 1.062 | CJ-1711 | 1.531 | .625 | .343 | .312 | .048 |
| | CJV-1713 | | CJ-1713 | 1.562 | .750 | .406 | .375 | .048 |
| | CJV-1809 | | CJ-1809 | 1.562 | .500 | .281 | .250 | .048 |
| 1.062 | CIV-1811 | 1.125 | CJ-1811 | 1.593 | .625 | .343 | .312 | .048 |
| | CJV-1813 | - | CJ-1813 | 1.625 | .750 | .406 | .375 | .048 |
| | CIV-1909 | | CJ-1909 | 1.625 | .500 | .281 | .250 | .048 |
| 1.125 | CJV-1911 | 1.187 | CJ-1911 | 1.656 | .625 | .343 | .312 | .048 |
| | CJV-1913 | | CJ-1913 | 1.687 | .750 | .406 | .375 | .048 |
| | CJV-2009 | | CJ-2009 | 1.687 | .500 | .281 | .250 | .048 |
| 1.187 | CJV-2011 | 1.250 | CJ-2011 | 1.718 | .625 | .343 | .312 | .048 |
| | CJV-2013 | | CJ-2013 | 1.750 | .750 | .406 | .375 | .048 |
| | CIV-2109 | | CI-2109 | 1.750 | .500 | .281 | .250 | .048 |
| 1.250 | CJV-2111 | 1.312 | CJ-2111 | 1.781 | .625 | .343 | .312 | .048 |
| | CIV-2113 | | CI-2113 | 1.812 | .750 | .406 | .375 | .048 |
| | CJV-2209 | | CI-2209 | 1.812 | .500 | .281 | .250 | .048 |
| 1.312 | CIV-2211 | 1.375 | CI-2211 | 1.843 | .625 | .343 | .312 | .048 |
| | CJV-2213 | | CJ-2213 | 1.875 | .750 | .406 | .375 | .048 |
| | CJV-2309 | | CJ-2309 | 1.875 | .500 | .281 | .250 | .048 |
| 1.375 | CJV-2311 | 1.437 | CJ-2311 | 1.906 | .625 | .343 | .312 | .048 |
| | CJV-2313 | | CI-2313 | 1.937 | .750 | .406 | .375 | .048 |
| | CJV-2509 | | CJ-2509 | 2.000 | .500 | .281 | .250 | .048 |
| 1.500 | CJV-2511 | 1.562 | CJ-2511 | 2.031 | .625 | .343 | .312 | .048 |
| | CJV-2513 | | CJ-2513 | 2.062 | .750 | .406 | .375 | .048 |
| | CJV-2709 | | CJ-2709 | 2.125 | .500 | .281 | .250 | .048 |
| 1.625 | C V-2711 | 1.687 | CJ-2711 | 2.156 | .625 | .343 | .312 | .048 |
| 23 | CJV-2713 | 1 | CJ-2713 | 2.187 | .750 | .406 | .375 | .048 |
| | CIV-2909 | | CJ-2909 | 2.250 | .500 | .281 | .250 | .048 |
| 1.750 | C V-2911 | 1.812 | CJ-2911 | 2.281 | .625 | .343 | .312 | .048 |
| 50 | C V-2913 | 1.3.2 | CJ-2913 | 2.312 | .750 | .406 | .375 | .048 |
| | CJV-3309 | | CJ-3309 | 2.500 | .500 | .281 | .250 | .048 |
| 2.000 | C V-3311 | 2.062 | CJ-3309 | 2.531 | .625 | .343 | .312 | .048 |
| 2.000 | CJV-3311 | 2.002 | CJ-3313 | 2.562 | .750 | .406 | .375 | .048 |

CARBON STEEL EXPANSION PLUGS Cup Type - Concave Bottom

MATERIAL: CRS, Per ASTM A 1008 CS Type B

FINISH: Z2 - .0002 Min Zinc Clear





| | | D | В | С | Т | |
|----------------|---------------------|---------------------|-------------------|-----------------|--------------------|------------------------------|
| Part Number | Nominal Diameter | Outside Diameter | Overall Height | Crown Height | Steel Thickness | Recommended Hole Diameter |
| PC-0500 | 1/2 | .510512 | .230270 | .049075 | .042 | .504506 |
| PC-0562 | 9/16 | .572574 | .230270 | .049075 | .042 | .566568 |
| PC-0625 | 5/8 | .635637 | .230270 | .049075 | .042 | .629631 |
| PC-0687 | 11/16 | .697699 | .230270 | .049075 | .042 | .691693 |
| PC-0750 | 3/4 | .760762 | .230270 | .057083 | .048 | .754756 |
| PC-0812 | 13/16 | .823825 | .230270 | .057083 | .048 | .817819 |
| PC-0875 | 7/8 | .885887 | .230270 | .057083 | .048 | .879881 |
| PC-1000 | 1 | 1.010 - 1.012 | .290330 | .067103 | .048 | 1.002 - 1.005 |
| PC-1125 | 1-1/8 | 1.135 - 1.137 | .290330 | .067103 | .048 | 1.127 - 1.130 |
| PC-1250 | 1-1/4 | 1.260 - 1.262 | .290330 | .067103 | .048 | 1.252 - 1.255 |
| PC-1500 | 1-1/2 | 1.506 - 1.508 | .290330 | .077113 | .060 | 1.497 - 1.500 |
| PC-1750 | 1-3/4 | 1.760 - 1.762 | .340380 | .077113 | .060 | 1.751 - 1.754 |
| PC-1875 | 1-7/8 | 1.885 - 1.887 | .340380 | .077113 | .060 | 1.876 - 1.879 |
| PC-2000 | 2 | 2.010 - 2.012 | .340380 | .097153 | .060 | 2.001 - 2.004 |
| PC-2500 | 2-1/2 | 2.513 - 2.518 | .380440 | .111167 | .060 | 2.500 - 2.504 |
| PC-3000 | 3 | 3.010 - 3.013 | .480540 | .111167 | .074 | 3.000 - 3.004 |

Dimensions apply before plating.

Core Hole Preparation and Insertion of Cup-type Core Hole Plugs

KMC produces a full line of concave-bottom ("PC") plugs. The "PC" seals by pressure exerted by the concave bottom against the walls of the plug, much in the same manner as a Belleville washer.

HOLE PREPARATION. Inside core hole finish should not exceed 100 micro inches. Eccentricity of the hole should not be greater than .002" for plugs under 1", nor more than .003" for plugs over 1" diameter. With properly prepared holes, plugs can be installed without a sealant. A small amount of lubricant, such as light machine oil with 5% white lead, is desirable to prevent galling.

A 30° x .03" minimum chamfer should be machined on the core hole entry to facilitate plug entry. A .25" minimum radius is preferable to a chamfer, but is seldom used because of tooling cost.

Plugs should be driven square to the hole with the open end approximately .03" below the tangent point of the entry relief. The shoulder on the driver should be bottomed on the casting to control squareness and proper depth. If the surface of the casting is rough or irregular, it should be faced. Plugs should not touch bottom in a counterbored hole.

DRIVING THE PLUG. Concave bottom (PC) plugs should be driven on the **inside bottom radius** and **NOT** from the top rim of the cup. The driving arbor should be .015/.025" smaller than the inside diameter of the plug, and have a contact radius of .062", with a flat bottom to prevent contact with the concave bottom to avoid deforming this surface.

SPECIFICATIONS

| Material Type | Part Number Suffix | Material Specifications | | |
|--|-----------------------|-------------------------------------|----------------------|--|
| CRS | None | ASTM A1008 CS Type B | | |
| Stainless Steel | SS | 304 Stainless per ASTM A240/A666 | | |
| Aluminum | AL | 5052 H34 per ASTM B209 | | |
| Cushion Material Specifications | Part Number Suffix | Color | Temperature Range | Application Information |
| Black Vinyl Plastisol per ASTM D 2287 Type PVC-32474 | V | Black | - 30° to 180° F | General purpose proprietary dip coat process. Good resistance to water, detergents, gasoline, oil, alkalies and acid. Not recommended for use with ketones, esters, chlorinated and aromatic solvents. |
| COL / CDL Series Cushion Material Specifications | Part Number Suffix | Color | Temperature Range | Application Information |
| Black EPDM per SAE J200, ASTM D2000 BC715A14C12E034 | None | Black | - 50° to 212° F | General purpose with superior resistance to heat, weather and ozone. Good resistance to oil and chemicals. |
| Red/Orange Silicone per SAE AMS3304, ASTM D2000 M2GE706 | S | Red/Orange | - 80° to 450° F | Excellent resistance to temperature and ozone. |
| Plating Description | Part Number Suffix | Plating Specifications | | |
| Hot-Dipped Zinc, Galvanized | Z1 | ASTM A653/A653M G90 | | |
| .0002 min Zinc, Clear | Z2 | | | |

VINYL PLASTISOL COATING

Vinyl used for parts in this catalog meets the following performance specifications:

| ASTM D2 | 2287 |
|---------|------|
| SAE | 200 |

Standard Coating Thickness and Verification: Normally .032 thick ±.015 excluding trailing/leading edges and drip areas of part. Since thickness is related directly to the temperature of the part when dipped, there will be some slight variation in coating thickness between parts made from widely different metal thicknesses.

Verification of clamping diameter is done before and after vinyl coating. Parts are inspected while clamped around a mandrel, the part should "hold" the appropriate mandrel in place and holes must be visually aligned. Closing instructions for the measurement process can be provided upon request.

Appearance: Decorative, dry, and glossy surface. Black vinyl standard.

Parts are packed in bulk in the shipping containers. It is common for the zinc coatings to rub and transfer some color on to the black vinyl coating, this is a normal condition.

Hardness: Normally 65 to 75 as measured on a Shore Durometer Type "A" on .25" thick sections properly cured. Hardness can be varied with special formulations.

Tensile Strength: Approximately 2,000 PSI as measured on a Model 1P-4 Scott tester on properly fused film .01-.02" thick. Elongation 300-350%.

Dielectric Strength: Approximately 200 volts per mil of coating thickness as measured on properly fused film .03" thick. Formulations that will provide dielectric strength to 700 volts per mil of coating thickness, and vinyls with high arc resistance, can be furnished with special formulations.

Resistance to Heat and Cold: Formulations used by KMC for catalog parts do not deteriorate at 180°F for as long as 2,000 hours, and 300°F for over two hours, and will remain flexible to -30°F. Self-extinguishing; will not support combustion.

Resistance to Chemical Action: Resist abrasion and chemical action from water, detergents, gasoline, oil, grease, strong alkalies, acids, and many other substances. Not recommended for use with ketones, esters, chlorinated solvents, and aromatic solvents such as toluol and zylol.

HOW TO CLAMP

CORRECT



Place mandrel into the back of the formed radius.



Lay front leg of clamp on a sturdy, flat surface.



Close clamp leg around mandrel, keeping front leg flat.

INCORRECT



DO NOT place mandrel anywhere but the back of the formed radius.



DO NOT lay short leg on an angle.



DO NOT lay on long leg and just pull down on the short leg



OUR QUALITY COMMITMENT



At KMC, quality control is not just a department. It is a standard that we hold ourselves to. That standard fuels our processes and drives our people toward the goal of delivering defect-free products to our customers.

KMC is proud to have earned the comprehensive and rigorous IATF 16949:2016 & ISO 9001-2015 for all of its manufacturing locations. As an IATF certified company, we work closely with our customers and suppliers to develop technical and commercial solutions using best in class practices.









"Setting Industry Standards since 1908"

KMC Corporate Headquarters

1221 South Park Street, P.O. Box 348 Port Washington, WI 53074-0348

ph: 262.377.5030

sales@kmc-original.com

