



YOUR LOCAL SPIRAL DUCT & OVAL DUCT CONNECTION

SPIRAL DUCT, OVAL DUCT, FITTINGS,
MASONRY THRU-WALL FLASHINGS,
INSIDE & OUTSIDE CORNERS,
ROOFING, COPINGS, DRIPEDGE, CHIMNEY CAPS,
ARCHITECTURAL METALS, COLUMN CORNERS



"If you can draw it, we can fabricate it"

Office: 2520 Pennsylvania Avenue SE • Washington, DC 20020

Shop: 3711 Wells Avenue • Mount Rainier, MD 20712

301.864.3828
202.575.0189

Email: info@dcduct.com • Web: www.dcduct.com



We are sheet metal fabricators specializing in spiral duct, oval duct and fittings that are manufactured to SMACNA guidelines 3rd edition 2005.

Our main office is located in Washington, DC, with our production facilities in Mount Rainier, Maryland.

We stock thousands of feet of spiral duct and hundreds of fittings.

Good service is available immediately. The impossible takes a little longer!

We service Maryland, Northern Virginia and the District of Columbia locally, and offer our products throughout the United States via common carrier. We will also offer local delivery at a nominal charge. We welcome pick-ups. We'll have your order ready and help you load it. If for some reason we don't have what you're looking for on the floor and are unable to supply you with enough materials to complete your order we will do whatever is necessary and possible to get you started. We can deliver or ship to most anywhere. We are able to purchase some items cheaper than we can manufacture them onsite and we have made arrangements for overnight shipping.

DC Duct & Sheet Metal LLC
2520 Pennsylvania Avenue
S. E. Washington, DC 20020

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We gladly accept Discover, Master Card, Visa and American Express.



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GALVANIZED, PAINT GRIP, STAINLESS STEEL, ALUMINUM & PVC COATED

Most items are available. If you are looking for a specific item please consult with us to see if we are able to supply you with that particular product

THE ADVANTAGES OF SPIRAL DUCT

The advantages of high pressure spiral pipe compared to traditional rectangular duct are numerous and compelling. It has led to it being selected for many uses and applications, such as: construction, factories, agriculture, restaurants and mining. It is not only for high and low velocity ventilation projects. In the construction industry it can be used for concrete column forms and culverts, caisson liners, and for voids in concrete.

Spiral duct is attractive in appearance. Economical to install. Available in many materials, and with many options and accessories to select from.

INSULATED DOUBLE WALL SPIRAL DUCT

Double Wall insulated pipe offers exceptional thermal and noise control. It is the most durable method of insulating spiral pipe. Mylar is also available.

INSULATED SINGLE WALL SPIRAL DUCT

With the advent of the non-shedding fiberglass we now have a new option of insulating without a core this can save thousands of dollars or up to fifty percent of the cost of double wall spirals

SPIRAL PIPE INSULATING & CORE MATERIALS

Mineral wool, Fiberglass Insulation, Mylar Vapor Barriers, Perforated or Solid Core in double wall installations.

QUALITY ASSURANCE

We utilize state-of-the-art technology. Our machinists are highly skilled and they take pride in providing the highest quality of service and craftsmanship. We manufacture the majority of our products in-house. Our customer service is second to none. In most cases we are able to provide the items you need when you need them. If we do not have what you are looking for on the floor and are unable to supply you with enough materials to complete your order we will do whatever is necessary and possible in order to get you started. We will always endeavor a timely turnaround on all quotations. Items that are too costly to be made onsite will be shipped in and then can be picked up or delivered

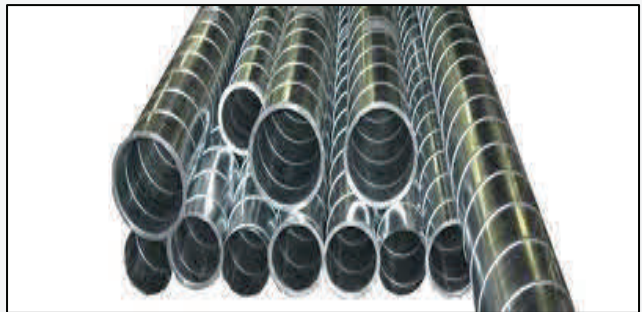
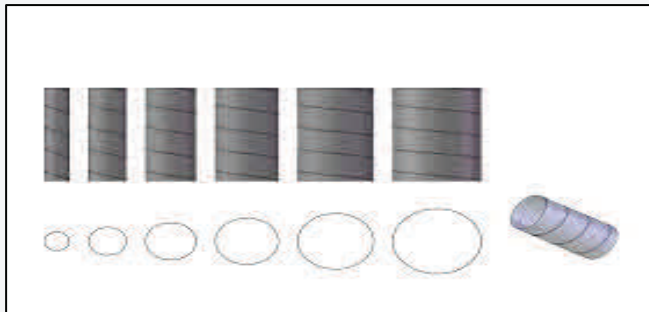


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Spiral Duct

Single Wall Galvanized Steel, Paint Grip & Fitting Gauges / Galvanized Steel G-90

DIAMETER	SPIRAL DUCT	FITTINGS
3" - 14"	26ga.	24ga.
15" - 26"	24ga.	22ga.
27" - 36"	20ga.	18ga.
38" - 50"	Call for Availability	Call for Availability
52" - 60"	Call for Availability	Call for Availability

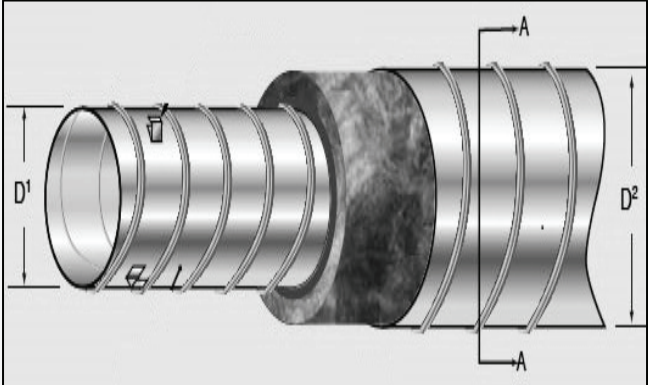




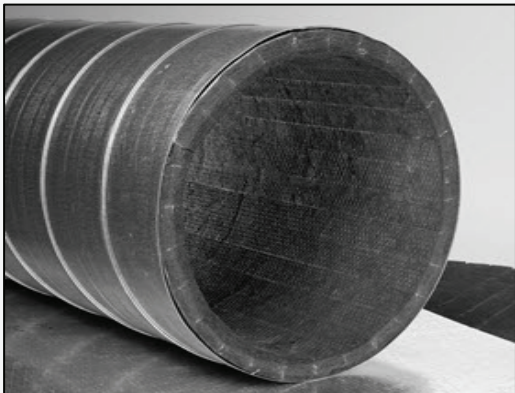
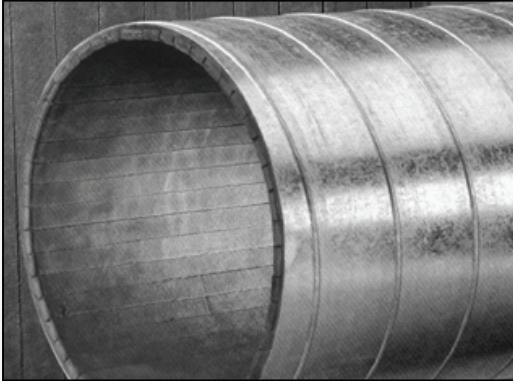
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Insulated Spiral Duct

DOUBLE WALL PERFORATED or SOLID CORE



SINGLE WALL INSULATED SPIRAL DUCT





301-864-3828

Oval Duct



Per Spiral Helix

DIA. ROUND TUBE in.		MINOR AXIS inches								DUCT GA.	
		6	8	10	12	14	16	18	20		24
12	M A J O R A X I S	15	14								24 GA.
14		18	17	16							↓
16		22	21	19	18	17					
18		25	24	23	21	20					↓
20		28	27	26	25	23	22	21			
22		31	30	29	28	27	25	24	23		↓
24		34	33	32	31	30	29	27	26	22 GA.	
26		37	36	35	34	33	32	31	29	27	↓
28		41	39	38	37	36	35	34	33	30	
30		44	43	41	40	39	38	37	36	33	↓
32		47	46	45	43	42	41	40	39	37	
34		50	49	48	47	45	44	43	42	40	↓
36	53	52	51	50	49	47	46	45	43		
38	56	55	54	53	52	51	50	48	46	↓	
40	60	58	57	56	55	54	53	52	49		20 GA.
42	63	62	60	59	58	57	56	55	53	↓	
44	66	65	64	62	61	60	59	58	55		
46	69	68	67	65	64	63	62	61	59	↓	
48	72	71	70	69	67	66	65	64	62		
52	79	77	76	75	74	73	72	71	68	↓	
56			83	81	80	79	78	77	74		18 GA.
60							84	83	81	↓	



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round capabilities

SINGLEWALL CONSTRUCTION	AVAILABLE				GAUGES / THICKNESSES	
	MATERIALS	SIZES	SEAMS	LENGTHS	MIN.	MAX.
SPIRAL PIPE Including Even & Odd Sizes	Galvanized (G60 & G90)	4" - 104" Diam.	SPIRAL	1" - 20'	28 Ga.	18 Ga.
	Galvaneal (Paintable)	4" - 104" Diam.		1" - 20'	24 Ga.	18 Ga.
	Stainless Steel (304 & 316)	4" - 104" Diam.		1" - 20'	24 Ga.	18 Ga.
	Aluminum (3003-H14)	4" - 104" Diam.		1" - 20'	0.024	0.071
	PVC Coated	4" - 104" Diam.		1" - 20'	24 Ga.	18 Ga.
FITTINGS	Galvanized (G60 & G90)	4" - 104" Diam.	SPS, SWB OR		24 Ga.	18 Ga.
	Galvaneal (Paintable)	4" - 104" Diam.	SPS, SWB OR		24 Ga.	18 Ga.
	Stainless Steel (304 & 316)	4" - 104" Diam.	SPS, SWB OR		24 Ga.	18 Ga.
	Aluminum (3003-H14)	4" - 104" Diam.	SPS, SWB OR		0.25	0.63
	PVC Coated	4" - 104" Diam.	RV		24 Ga.	18 Ga.
DOUBLEWALL (DW) & LINED CONSTRUCTION	OUTER SHELL MATERIALS (DW AND LINED)	INNER LINER MATERIALS (DW ONLY)	SEAMS	WALL THICKNESS	INSULATION / LINER	
SPIRAL PIPE ¹ AND FITTINGS	Galvanized (G60 & G90)	1. Perforated Galvanized Steel with 3/32" holes on 3/16" centers.	Outer Shell Seams equal to Singlewall.	1", 1½", 2", 3" (DW)	1", 1½", 2", 3" X 0.75 PCF UNFACED FIBERGLASS (DW) DUCT LINER (PM)	
	Galvaneal (Paintable)					
	Stainless Steel (304 & 316)	2. Solid Liner available in materials equal to OUTER SHELL	Inner Liner Seams - Spiral for Pipe, SWS for Fittings	1" & 1.5" (LINED)	JOHNS MANVILLE SPIRACOUSTIC AND SPIRACOUSTIC PLUS (LINED)	
	Aluminum (3003-H14)					
	PVC Coated					

1. Spiral Pipe (I.D. and O. D.) limited to Singlewall Available Sizes shown above. Lengths and Gauges / Thicknesses of Outer Shell are equal to Singlewall Construction Standards.



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Where engineering & efficiency meet comfort



Singlewall Round / Singlewall Oval Duct

Doublewall Round Duct / Doublewall Oval Duct

- 1" - Unfaced Fiberglass Insulated Doublewall
- 2" - Unfaced Fiberglass Insulated Doublewall
- 1" - Anti-Microbial Faced Insulated Doublewall
- 1½" - Anti-Microbial Faced Insulated Doublewall
- 2" - Anti-microbial Faced Insulated Doublewall



Singlewall Gasketed Round Duct & Fittings

Singlewall Gasketed Oval Duct & Fittings

All Lenjax fittings can be gasketed with the Spiramir Gasketing system. Please Call with any questions that you may have regarding various gasketing systems.



Available Materials

We stock all Duct & Fittings that are non-jobsite measurement crucial in galvanized, G-90, G-60 available at a slightly reduced cost.

Galvanized / Galvaneal / Stainless -Type 304 / Stainless - Type 316

Aluminum / PVC Coated Steel / Anti-Microbial coating can be applied to all flat sheets of metal and coils.



301-864-3828

round capabilities

ITEM

GALVANIZED SPIRAL PIPE	26 Gauge		24 Gauge		22 Gauge		20 Gauge		18 Gauge		16 Gauge		14 Gauge		12 Gauge		10 Gauge	
	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.
	4"	48"	4"	70"	4"	84"	4"	60"	4"	120"	12"	120"	12"	120"				
STAINLESS STEEL SPIRAL PIPE	26 Gauge		24 Gauge		22 Gauge		20 Gauge		18 Gauge		16 Gauge		14 Gauge		12 Gauge		10 Gauge	
	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.
			4"	70"	4"	84"	4"	60"	12"	120"								
GALVANEAL SPIRAL PIPE	26 Gauge		24 Gauge		22 Gauge		20 Gauge		18 Gauge		16 Gauge		14 Gauge		12 Gauge		10 Gauge	
	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.
			4"	70"	4"	84"	4"	60"	4"	120"	12"	120"	12"	120"				
PVC COATED SPIRAL PIPE	26 Gauge		24 Gauge		22 Gauge		20 Gauge		18 Gauge		16 Gauge		14 Gauge		12 Gauge		10 Gauge	
	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.
			4"	36"	4"	50"	4"	60"	4"	120"								
ALUMINUM SPIRAL PIPE	0.024		0.032		0.04		0.05		0.063		0.071		0.09					
	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.	Min Dia.	Max. Dia.				
	4"	48"	4"	70"	4"	84"	4"	60"	4"	120"	12"	120"						

C = Custom Product, please call our Sales Department

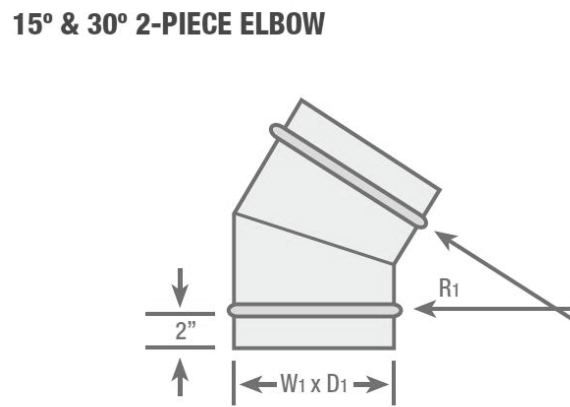
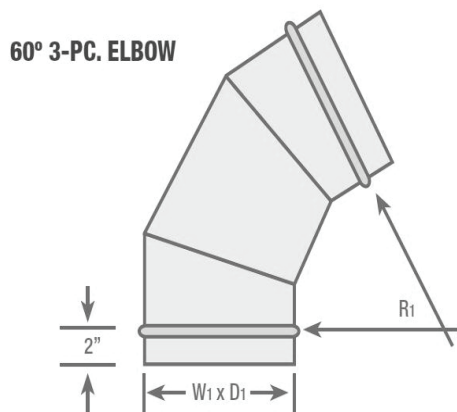
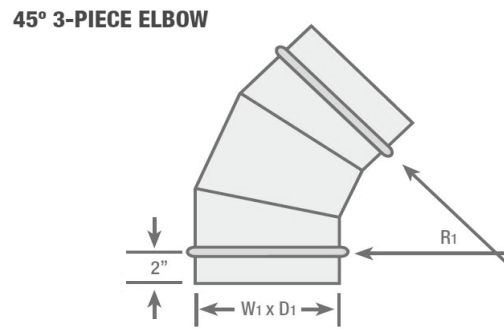
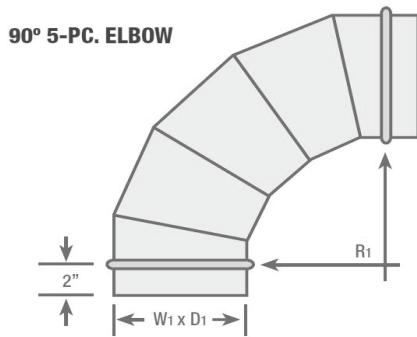
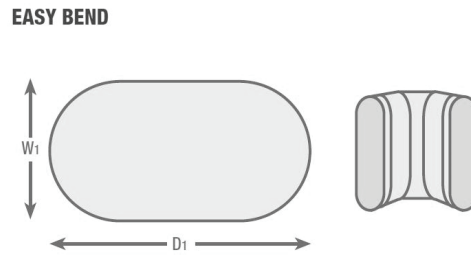
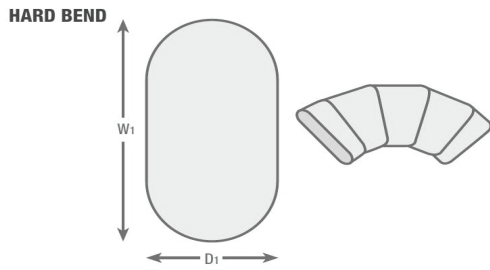
NOTES

1. Larger sizes available on special order. Please Call.



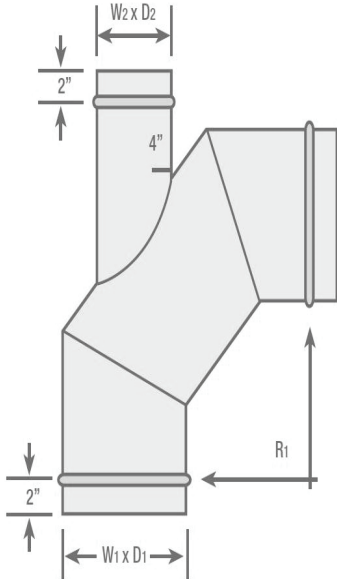
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Single Wall Oval Elbows

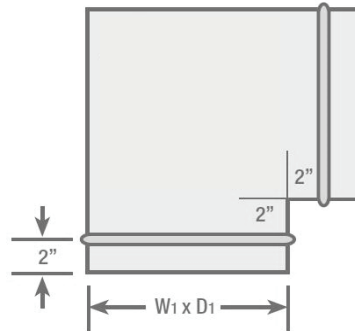


Single Wall Oval Elbows

90° 3-PC. ELBOW WITH STRAIGHT LATERAL

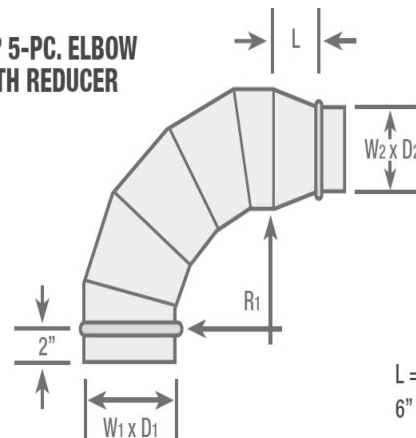


90° 2-PC. ELBOW



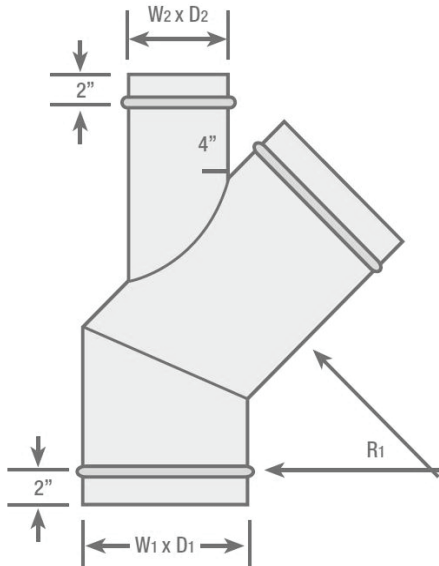
D1	No. of vanes
3-9	2
10-14	3
15-19	4
20-60	5
≥60	Max 12" spacing

90° 5-PC. ELBOW WITH REDUCER

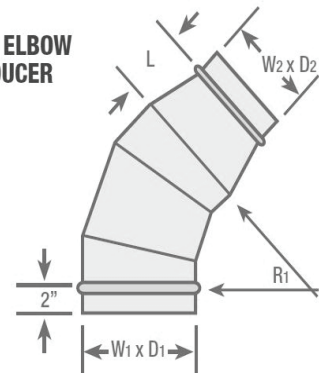


$L = W_1 - W_2$
6" Minimum

45° 2-PC. ELBOW WITH STRAIGHT LATERAL



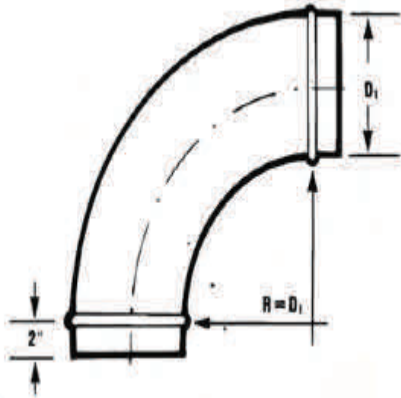
45° 3-PC. ELBOW WITH REDUCER



$L = W_1 - W_2$
6" Minimum

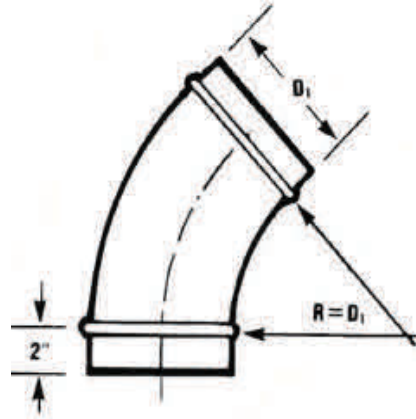
Fittings

SIZES 3" Ø THRU 12"

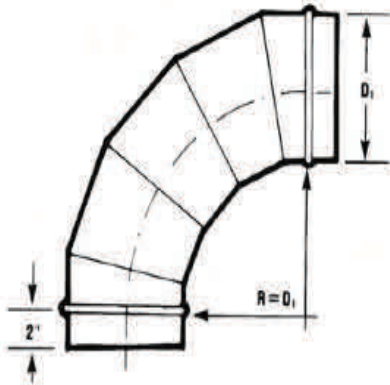


DC - 90
90° DIE STAMPED ELBOW
R = 1.5 X D

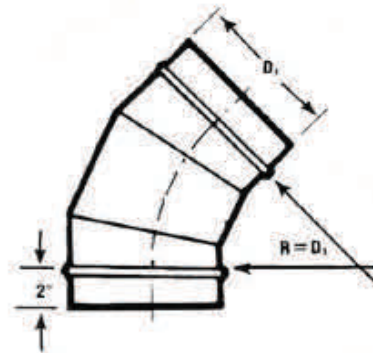
SIZES 3" Ø THRU 12"



DC - 45
45° DIE STAMPED ELBOW
R = 1.5 X D



DC - 90
90° GORE LOCKED ELBOW
R = 1.5 X D

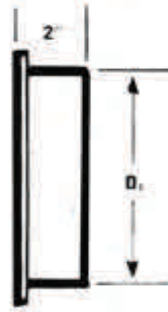


DC - 45
45° GORE LOCKED ELBOW
R = 1.5 X D



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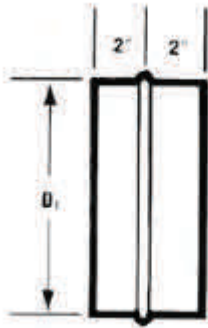
Fittings



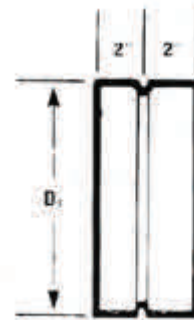
DC- P
END CAP
FOR PIPE

OR

DC- F
END CAP
FOR FITTING



DC- P
COUPLING FOR PIPE

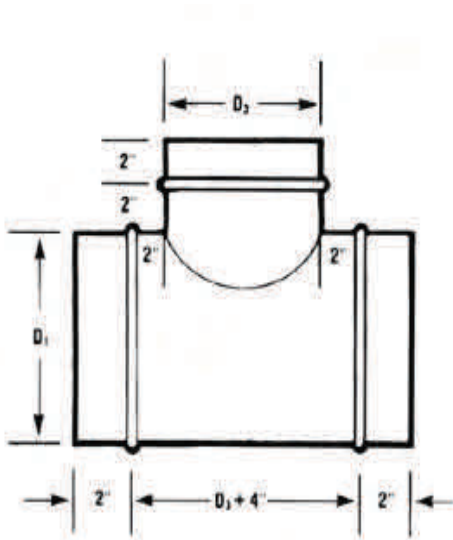


DC- F
COUPLING FOR FITTINGS



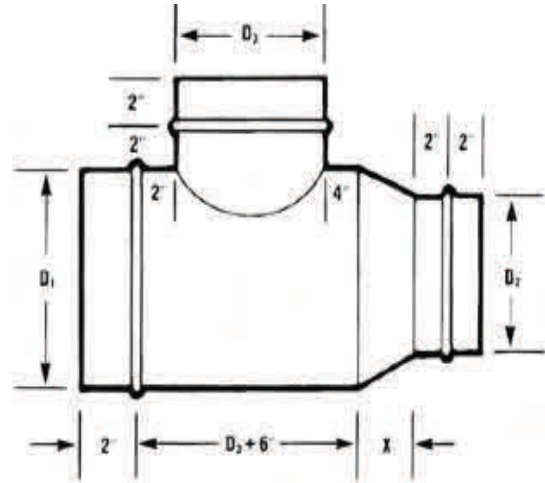
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Fittings



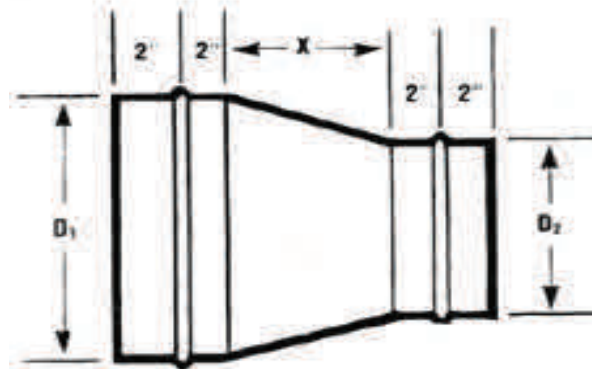
DCT - 90
90° TEE

X = 4" MINIMUM



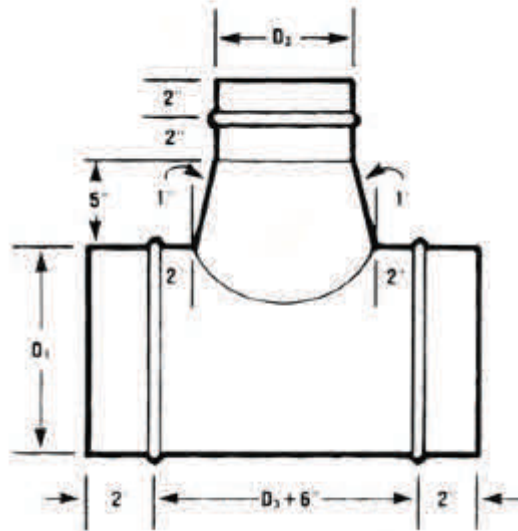
DCT - 90 RT
90° REDUCER TEE

$$X = D_1 - D_2$$

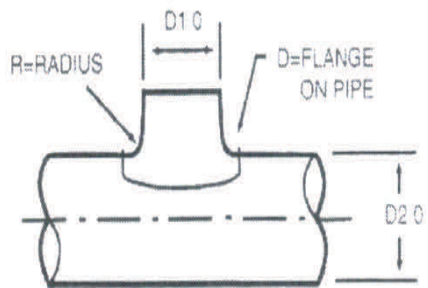


CONCENTRIC REDUCER

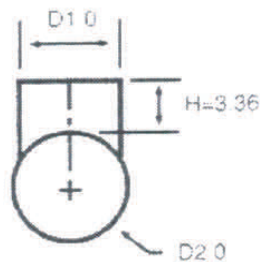
Fittings



DCCT - 90
 90° CONICAL TEE



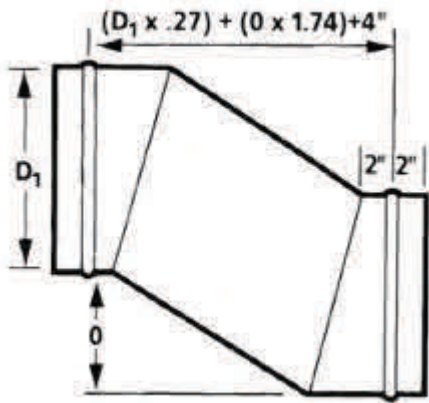
DC - TAP
 45° OR 90° TAP



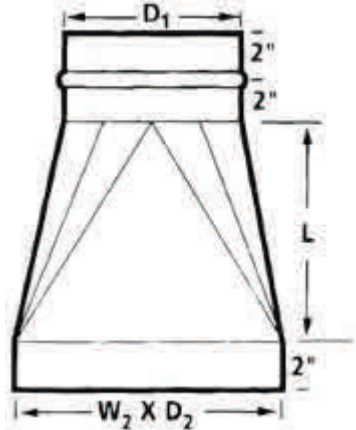
DCCT – TAP
 90° SADDLE TAP

SHOP OR FIELD INSTALLED

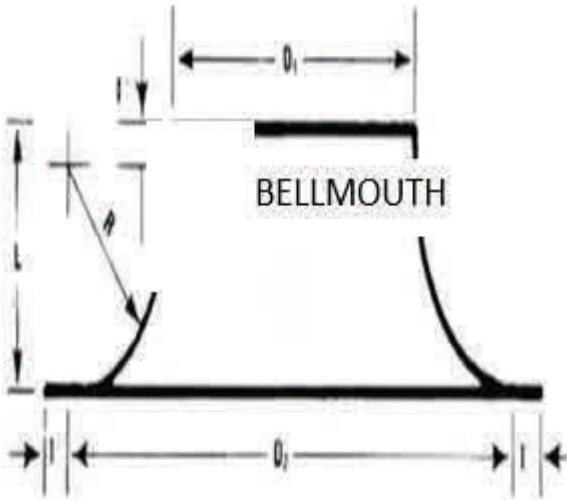
Fittings



OFF
 OFFSET



SQ 2RD
 SQUARE TO ROUND



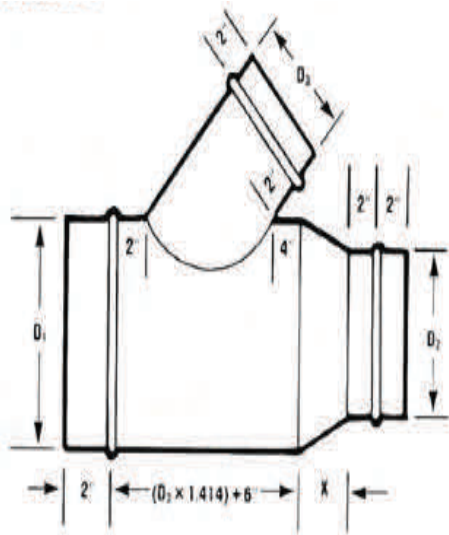
DC - BELLMO
 BELLMOUTH



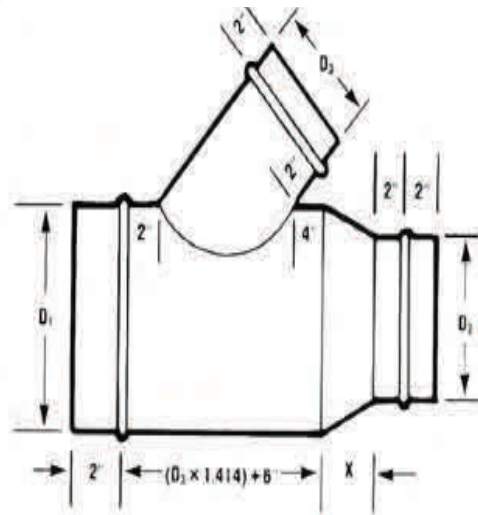
DC - BELLMOUTH
 EXTENDED BELLMOUTH
 With or Without Damper Available

Fittings

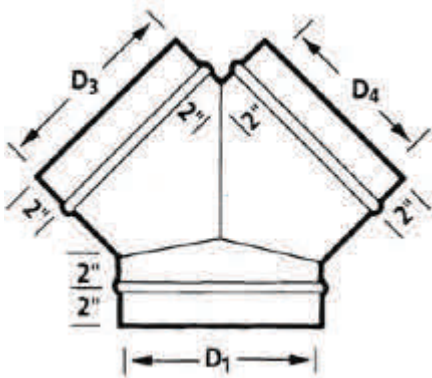
X = 4" MINIMUM



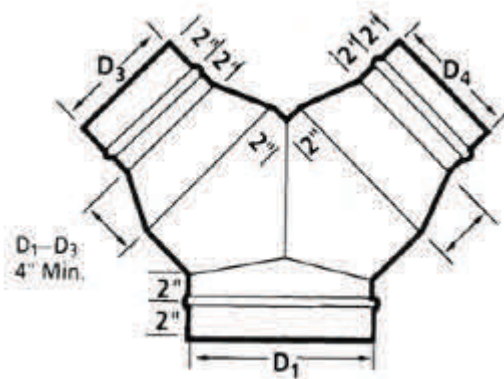
DCL - 45
45° LATERAL



DCRL - 45 RL
45° REDUCING LATERAL



YB
Y - BRANCH



YRB
REDUCING Y-BRANCH



SMACNA Table 3-5 Round Duct Gage Unreinforced Positive Pressure To 10 in. wg

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Pg.1 of 2

Diameter, In.	Longitudinal Seam	Spiral Seam
4	28	28
5	28	28
6	28	28
7	28	28
8	28	28
9	28	28
10	28	28
11	28	28
12	28	28
13	28	28
14	28	28
15	26	26
16	26	26
17	26	26
18	26	26
19	26	26
20	24	26
21	24	26
22	24	26
23	24	26
24	24	26
25	24	26
26	24	26
27	24	26
28	24	26
29	24	26
30	22	24
31	22	24
32	22	24
33	22	24
34	22	24
35	22	24
36	22	24
37	22	24
38	22	24
39	22	24
40	22	24
42	22	24

1. Although shown **WE DO NOT** use 28 gauge - WE USE 26 GAUGE IN PLACE OF 28 gauge .
2. We corrugate our duct starting at 14" (Only Galvanized)
3. *** Unless we are notified in advance our galvanized duct will be corrugated!



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**SMACNA Table 3-5 Round Duct Gage Unreinforced
Positive Pressure To 10 in. wg**

Pg.2 of 2

Diameter, In.	Longitudinal Seam	Spiral Seam
43	20	22
44	20	22
45	20	22
46	20	22
47	20	22
48	20	22
49	20	22
50	20	22
51	20	22
52	20	22
53	20	22
54	20	22
55	20	22
56	20	22
57	20	22
58	20	22
59	20	22
60	20	22
61	20	22
62	20	22
63	20	22
64	20	22
65	20	22
66	20	22
67	18	22
68	18	20
69	18	20
70	18	20
71	18	20
72	18	20

1. Although shown **WE DO NOT** use 28 gauge - WE USE 26 GAUGE IN PLACE OF 28 gauge .
2. We corrugate our duct starting at 14" (Only Galvanized)
3. *** Unless we are notified in advance our galvanized duct will be corrugated!

Standard Hanger Range



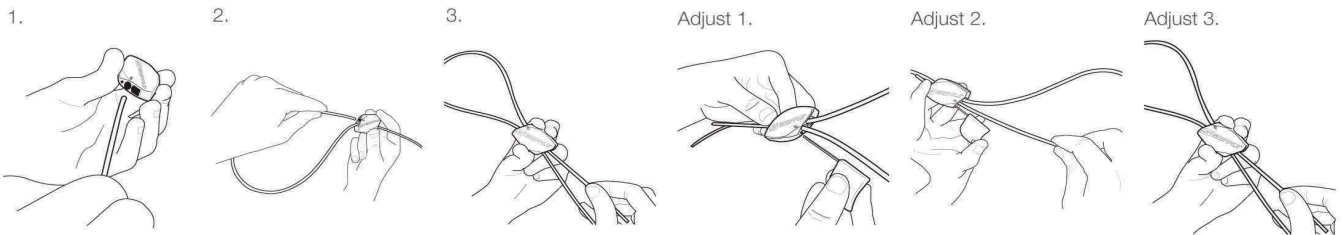
Used to suspend a variety of HVAC, mechanical and electrical services from different substrates.

FEATURES / BENEFITS

- Ideal for fast suspension of cable containment, pipework, air conditioning
- Up to six times faster to install than traditional hanging systems
- Versatile and simple to use
- Strong, safe and industry approved
- Aesthetically discreet and lightweight
- Supplied in ready-to-use kits, comprising a length of cable, pre-crimped End Fixing, Gripple Hanger and Setting Key

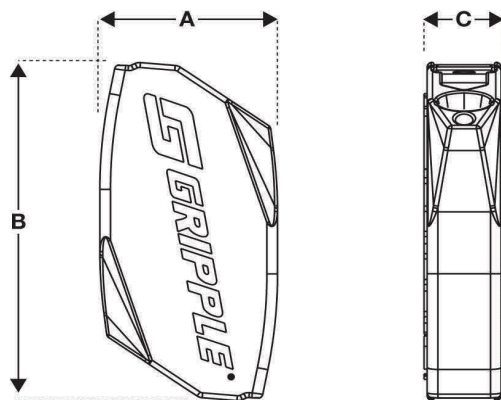


INSTALLATION & ADJUSTMENT



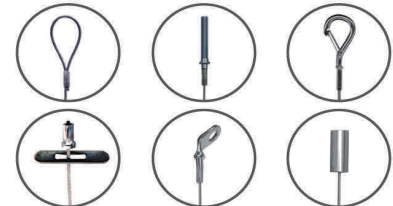
Ensure a minimum 3 inches of tail cable exits the hanger.

SPECIFICATION



Dimension	No.1 (inches)	No.2 (inches)	No.3 (inches)	No.4 (inches)	No.5 (inches)
A	0.63	0.71	1.02	1.47	1.69
B	0.94	1.34	1.69	2.44	4.17
C	0.24	0.31	0.31	0.43	0.51

AVAILABLE END FIXINGS



For more options on available end fixings please contact us or visit www.gripple.com

SUBMITTAL INFORMATION

Safe Working Load:

No.1 - 25 lbs No.4 - 500 lbs
No.2 - 100 lbs No.5 - 715 lbs
No.3 - 200 lbs

All with a 5:1 safety factor

Material:

Housing - Type ZA2 Zinc
Wedge - Sintered steel hardened to min. 56 Rockwell C
Spring - Stainless Steel (Type 302)
End Cap - UV stabilized homopolymer propylene





301-864-3828



Ductwork Hanger Data

Rectangular duct (unlined), based on 8' hanging space and two hanger method.

Rect. Duct size (height + width)	Weight / ft.		Weight / 8 ft.	Grippler Hanger Size Needed (2 per 8ft.) *	Safety Factor
	20 Gauge	22 Gauge			
80 x 20"	28.10	--	224.80	3	8:1
70 x 24"	26.44	--	211.52	3	9:1
66 x 24"	25.34	--	202.72	3	9:1
50 x 20"	19.82	--	158.56	2	12:1
40 x 22"	19.27	--	154.16	2	12:1
36 x 18"	--	13.08	104.64	2	9:1
24 x 12"	--	8.86	70.88	2	14:1
16 x 16"	--	7.92	63.36	2	15:1
14 x 10"	--	6.05	48.40	2	20:1
12 x 6"	--	4.64	37.12	2	26:1
10 x 6"	--	4.17	33.36	2	29:1
8 x 6"	--	4.17	33.36	2	29:1

*No.2 Grippler = 100 lbs SWL per hanger, 5:1 safety factor
 No.3 Grippler = 200 lbs SWL per hanger, 5:1 safety factor

Spiral duct, single wall, based on 10' hanging space.

Diameter	Circumference	Grippler Hanger Size		
		26 Gauge	24 Gauge	22 Gauge
12"	3' 2"	2	2	2
16"	4' 2"	2	2	2
20"	5' 3"	2	2	2
24"	6' 3"	2	2	2
28"	7' 4"	2	2	3
32"	8' 5"	2	3	3
36"	9' 5"	2	3	3
40"	10' 6"	3	3	3
44"	11' 6"	3	3	3
48"	12' 7"	3	3	3
52"	13' 7"	3	3	4
56"	14' 8"	3	3	4
60"	15' 8"	3	4	4

Spiral duct, double wall, based on 10' hanging space.

Inside diameter (in)	Outside gauge	Inside gauge	Wt/Ft (lbs)	Grippler size
12"	26	26	8.0	2
16"	24	24	11.0	3
20"	24	24	13.4	3
24"	24	24	18.0	3
28"	22	24	22.3	4
32"	22	24	25.2	4
36"	20	22	31.2	4
40"	20	22	36.7	4
44"	20	22	40.2	4
48"	20	22	43.8	4
52"	18	20	56.2	5
56"	18	20	60.8	5

Please note, calculations do not take into account weight of connectors.

Hanger length charts

Standard hanging (for spiral duct 36" and smaller)

Duct size (diameter)	Dim. A (minimum)	Grippler cable length needed (ft)						
		Elevation from roof to top of duct						
		5'	8'	10'	12'	15'	18'	20'
12"	3"	10'	15'	15'	20'	20'	25'	25'
14"	3.5"	10'	15'	15'	20'	20'	25'	25'
16"	4"	10'	15'	15'	20'	20'	25'	25'
18"	4.5"	10'	15'	15'	20'	20'	25'	25'
20"	5"	15'	15'	20'	20'	25'	25'	30'
22"	5.5"	15'	15'	20'	20'	25'	25'	30'
24"	6"	15'	15'	20'	20'	25'	25'	30'
26"	6.5"	15'	15'	20'	20'	25'	25'	30'
28"	7"	15'	20'	20'	20'	25'	30'	30'
30"	7.5"	15'	20'	20'	20'	25'	30'	30'
32"	8"	15'	20'	20'	25'	25'	30'	30'
34"	8.5"	15'	20'	20'	25'	25'	30'	30'
36"	9"	20'	20'	25'	25'	30'	30'	35'

Cradle hanging (for spiral duct larger than 36").

Duct size (diameter)	Grippler cable length needed (ft)						
	Elevation from roof to top of duct						
	5'	8'	10'	12'	15'	18'	20'
36"	20'	30'	30'	35'	40'	50'	50'
38"	20'	30'	30'	35'	40'	50'	50'
40"	25'	30'	35'	35'	45'	50'	55'
44"	25'	30'	35'	40'	45'	50'	55'
46"	25'	30'	35'	40'	45'	50'	55'
48"	25'	30'	35'	40'	45'	50'	55'
50"	25'	30'	35'	40'	45'	50'	55'
52"	25'	30'	35'	40'	45'	50'	55'
56"	25'	35'	35'	40'	45'	55'	55'
60"	30'	35'	40'	40'	50'	55'	56'

- All hangers are available in 5', 10', 15', 20' and 30' standard lengths
- Lengths rounded up to nearest 5 ft increment
- Size of cable hanger (No.1 - No.5) will be based on weight of duct and hanger spacing
- Allow spacing equal to 1/4" of duct diameter between the Grippler fastener and duct (Dim. A)



- All hangers are available in 5', 10', 15', 20' and 30' standard lengths
- Lengths rounded up to nearest 5 ft increment
- Size of cable hanger (No.1 - No.5) will be based on weight of duct and hanger spacing
- Duct larger than 36" should be hung in 'cradle' fashion, with the hanger secured at two points to the roof / ceiling and the cable supporting the duct underneath





301-864-3828



PipeCut V1000

It's a new era for spiral duct cutting. Exact PipeCut V1000 offers ease of use and a huge size range for cutting spiral ducts. The finished ends are straight and ready to be connected.

*As an option, we have special pipe supports for the V1000 that can hold spiral ducts from 3" - 40" (75mm - 1000mm)



* \$820. LIST PRICE

O.D. = 3" to 40" (75mm - 1000mm)

Wall Thickness = 0.06" - 0.23"
(1.5 mm - 6 mm)

Model	Pipecut V1000
Voltage/Current	110V, 120V / 8.4A
No-Load speed	4000 rpm
Blade Diameter	6.1" (155 mm)
Mounting bore	2.55" (155 mm)
Weight	13 lbs. (6.0 kg)
Range of use	3" - 40" (75 mm - 1000 mm)
Max. pipe wall	0.06" - 0.23" (1.5 mm - 6 mm) seam

Pipe Support V1000

Pipe Support V1000 is specially designed to be used with Exact Pipe-Cut V1000 pipe saw. It can be used for ventilation pipes from 75mm (3") up to 1000mm (40"). It has two positions one for smaller pipes - OD 400mm (16") or less - and the other for larger pipes - OD more than 400mm (16").

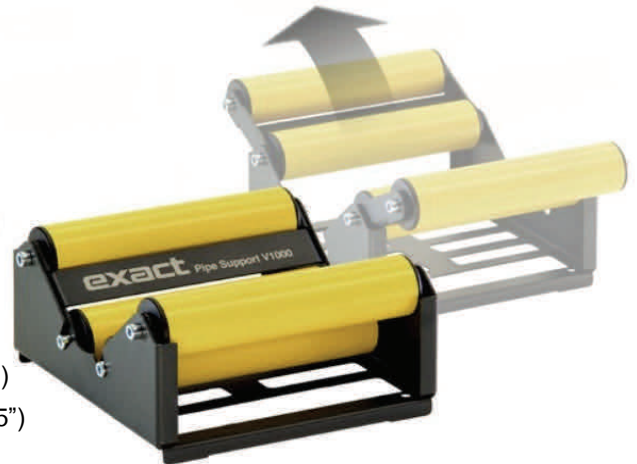
Capacity: max. pipe OD = 1000mm (40.0")

Weight: 2,77kg (56.11lb)

Material: steel, plastic

Dimensions closed: w= 25.9cm (7.1"), d=16,5cm (6.5"), h = 12,9cm (5.1")

Dimensions open: w= 39, 4cm (15.5"), d=25,5cm (10.0"), h = 16,4cm (6.5")



Pipe Support V1000 set

Includes 3x PipeSupport V100 + PipeCut Bag 3

Pipe Support V1000

Capacity: max. pipe OD = 1000mm (40.0")

Weight: 2,77kg (6.11lb)

Material: steel, plastic

Dimensions closed: w= 25.9cm (7.1"), d=16,5cm (6.5"), h = 12,9cm (5.1")

Dimensions open: w= 39, 4cm (15.5"), d=25,5cm (10.0"), h = 16,4cm (6.5")

PipeCut Bag 3

Dimensions: w =54cm (21.3"), d=25cm (9.8"), h = 29cm (11.4")

Material: Durable nylon





301-864-3828



HVAC Antimicrobial Protected Coatings



Introduction to Shop Applied Coating Technology



301-864-3828



HVAC Heating, Ventilation, and Air Conditioning Then & Now

Although HVAC technology is one of the most practical advantages of modern construction, it's plagued with potential problems. Even a well maintained HVAC system can create a perfect environment that consists of dark, warm, enclosed surfaces where microbes can thrive.

With increasing public attention focused on odor causing bacteria, mold and mildew, consumers and businesses alike are looking for innovative and effective ways to address these concerns. Science, and cutting edge technology companies have been working to develop solutions for hospitals, schools, restaurants and even our homes. Silver Ion antimicrobial protected clean surface technology is leading the way by design.



Bio Shield Tech and Silver Bullet AM® Shop Applied Coating is the Answer

Silver Bullet AM® is a revolutionary product that assures the natural protective qualities of silver, which disrupts microbes and stops their growth. The product is based on Agion®, a silver zeolite antimicrobial compound that can be applied to galvanized and stainless steel, aluminum, fabrics, textiles, plastics, and other substrates. In Silver Bullet AM®, Agion® is applied as a heavy-duty, water-based epoxy coating on metals and other surfaces to suppress microbial growth-it even protects against metal corrosion.

Silver Bullet AM® can be used for a wide range of industrial purposes:

- HVAC: Fully compliant with all new product specifications for "Shop Applied Antimicrobial Protected Coating" tested for efficacy by an NRTL. Agion® antimicrobial technology is registered by the EPA for use in HVAC systems. The coating is available in clear, tracer white, or tracer black.
- Building and construction: Safeguard the longevity of your building materials by treating them with Silver Bullet AM®, preventing yeast and fungal growth in walls, roofs, and basements.
- Commercial food and water equipment: Silver Bullet AM® is one of the safest antimicrobial treatments for humans and animals, making it an ideal coating for use on industrial water treatment and food packaging equipment.
- On-site touch-ups: Silver Bullet AM® is available in aerosol form for easy touch-ups as needed.

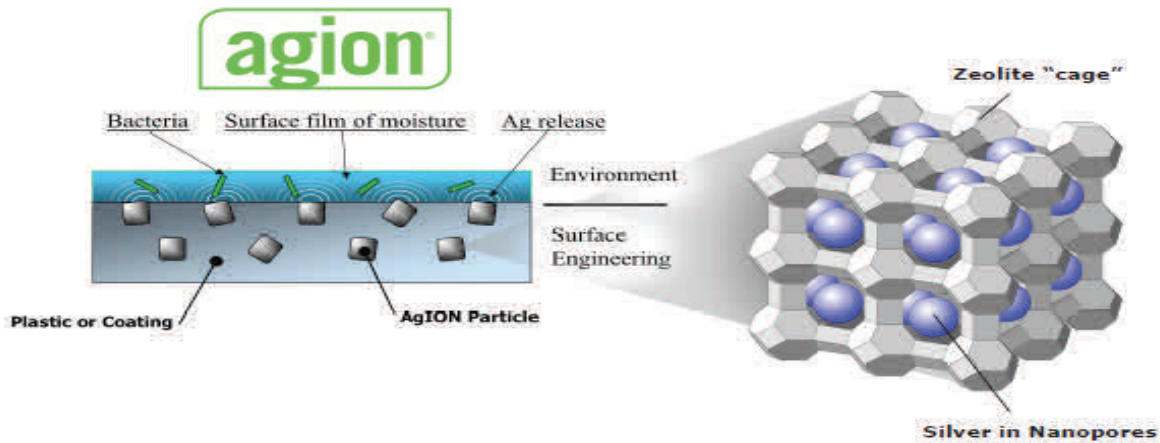


301-864-3828



How Silver Bullet AM® with Agion® Antimicrobial Technology Works

Silver Bullet AM® Antimicrobial Protected Coatings uses breakthrough Agion® Silver Zeolite Technology. Silver is a safe and effective way to prevent growth of odor causing bacteria in hospitals, water filters, medical devices, consumer products, food processing facilities and is EPA registered for use in HVAC systems. Agion® unleashes the natural antimicrobial power of silver with a unique zeolite carrier and ion exchange devise that manages the release of the silver ions to provide continuous suppression of microbial growth wherever it is applied.



A Shop Applied Antimicrobial Protected Coating For HVAC Projects Of Any Size

Whatever size structure you'll be outfitting with an HVAC system, from a small office building to a new wing of a college, chances are your spec sheet will call for antimicrobial coated steel for its construction. This somewhat recent addition to the requirements that must be met in fabricating an HVAC system was no accident. In fact, this antimicrobial protected coating brings one of the most significant advances in HVAC design that we have seen in years.

Silver Bullet AM® meets new project specifications for efficacy by an NRTL, and registered by the EPA for use in HVAC systems

Bio Shield Tech is pleased to offer a stellar selection of Silver Bullet AM® Shop Applied Antimicrobial Protected Coatings, with sizes suited to every job. Whether your project requires 3 quarts or 300 gallons, we arm you with the tools that help you to meet current specs effectively and efficiently.



301-864-3828



The Silver Bullet AM® System

Silver Bullet AM® Antimicrobial Protected Liquid Epoxy

Silver Bullet AM® Antimicrobial Protected Coatings, with its unique resin system, can be applied to walls, ducts, coils, filters and plastic components of HVAC systems. Field and laboratory data shows long-term control of the growth of bacteria, mold and fungus on components treated with Agion® Antimicrobial technology.

Silver Bullet AM® Acrylic Aerosol 14-451AM

Silver Bullet AM® Aerosol is an acrylic resin material mixed with Agion antimicrobial compound. This product is designed to control bacterial growth as well as the growth of mold, mildew and algae on the protected surface. It sprays on easily, dries quickly, contains no HAPS solvents, is low VOC and is perfect for on-site touchups when used in conjunction with other Silver Bullet AM® products.

BC4000 Cleaner

BC 4000 is a general purpose liquid alkaline cleaner intended to serve a variety of applications in general metal working and industrial applications. Cleans all types of parts and metals to eliminate the need for individual solvents. Normally it is sprayed on and then wiped clean with clean rags. It can be used in agitated cleaning machines.

*Silver Bullet AM® Aerosol is a registered trademark of Burke Industrial Coatings

Bio Shield Tech is More Than a Supplier

We have the expertise you need to understand current antimicrobial technologies and to find the solutions that are best for you and your customers. What's more, we'll show you how Silver Bullet AM® can easily satisfy requirements through your submittal process and advise you on safety and procedural requirements for antimicrobial protection and application.

As an approved HVAC specialist for Silver Bullet AM®, our products include Agion antimicrobial compounds that have been tested for efficacy by an NRTL (Nationally Recognized Testing Laboratory) and are registered by the EPA for safe use in HVAC systems.

Bio Shield Tech is trusted by medical facilities and manufacturers, construction firms, HVAC providers, and government agencies in need of antimicrobial and personal protection products. Our certified industry experts are available to guide you through each phase of the process.





301-864-3828



**SILVER BULLET AM® Tracer Black
AGION® ANTIMICROBIAL PROTECTED GLOSS EPOXY
20-452 Tracer Black**

DESCRIPTION 2 to 1 mix Water Base Epoxy protected with Agion® Silver Antimicrobial Type AC

USES A tough, heavy duty, extremely chemical resistant epoxy designed for maximum performance in severe environments. It contains a bactericide to protect the coating against over 650 strains of bacteria, mold, fungi and algae.

RECOMMENDED PRIMERS Steel Plus Epoxy Primer or direct to properly cleaned metal.

PHYSICAL PROPERTIES

WEIGHT PER GALLON	8.85 LBS.
SOLIDS BY WEIGHT	39%.
SOLIDS BY VOLUME	34.5%.
RECOMMENDED DFT	.5 to 1.0 mils
INDUCTION TIME	NONE
WET FILM TO ACHIEVE DFT	1.5 to 3 mils

THEORETICAL COVERAGE

.1 Mil DFT 1100 to 550 sq. ft./gallon

**PRACTICAL COVERAGE.1 Mil DFT
.RECOMMENDED DFT** 1100 to 550 sq. ft./gallon

DRY TIMES . 70° F - 80° F (21° - 27°C) AND 50% RH	Tack Free	20-60 minutes
	Handle	2-4 hours
	Recoat	1 hour after dry to touch
	Fully Cured	1 hour after dry to touch
	Heat Cure	175 degrees F for 30 minutes after a 15 minute flash time

POT LIFE	4 hours with no reduction of gloss (subject to temperature and humidity conditions)
DRY HEAT RESISTANCE	300°
SHELF LIFE	1 year (single component - not mixed)
PACKAGING	1 gallon, 5 gallon

SURFACE PREPARATION

All Surfaces: Surface prep is one of the most important steps for a successful paint job. If the surface is not adequately cleaned, then a future paint failure could occur. Remove all grease, oils, salts and other contaminants by washing with Burke BC4000 cleaner thinned from 5 parts water to 1 part cleaner up to 9 parts water to 1 part water. More contaminants require a stronger mix. Spray the cleaner on and wipe with clean rags. If you notice any cratering or crawling of the coating on application, STOP and rewash entire surface. Extremely smooth or slick metal may require scuff sanding for maximum adhesion.1 year (single component - not mixed)



301-864-3828



Why Bio Shield Tech?

We Can ...

- Assist in choosing the appropriate products for your project
- Assist in bid preparation during the bidding process
- Provide square footage pricing
- Assist you in marketing antimicrobial technology to your customers
- Communicate with architects, specifiers, and design engineers on your behalf
- Recommend the appropriate equipment for spec compliance and for "Shop-Application"
- Assist in securing third party lab testing for efficacy after product application

Technical Information

***Agion® silver based compounds are NSF Certified, FDA Listed, And EPA Registered for .
or Food, Water, and HVAC Applications.***

Silver Bullet AM® SPECIFICATIONS

Impact Resistance ASTM D2794-93:160°# Reverse

Cross Hatch Adhesion ASTM D3359, Method B. Rates 5B on steel and aluminum

Pencil Hardness ASTM D3363: 6H

Mandrel Bend ASTM D522, Method B: Pass1/8" Bend

Sag Resistance ASTM D4400: No sag at 10 mils

Cleaning/Thinning Solvent Water

Humidity** ASTM D4585: 1500 Hours, no blisters after 1000 hours

Salt Spray** ASTM B-117: 1500 Hours, no blisters, no undercut

Temperature Range Cured: 40°F to 300°F

Odor Little to none

VOC Content 143 g/l or 1.19 #/gal

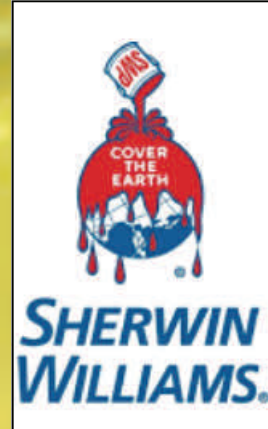
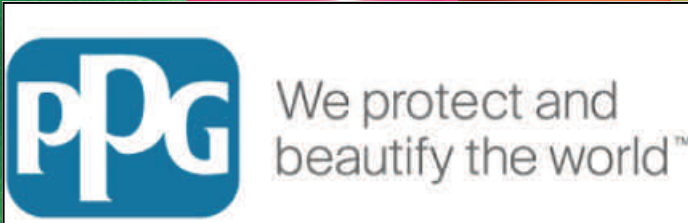
**Tested over Steel Plus Epoxy Primer and Steel Plus CE - 316. Tests with no * were tested as a single coat.

Although our antimicrobial protected coatings help to protect coated surfaces from microbial growth, Bio Shield does not make any assertion that the products will eliminate the threat of disease-causing organisms . Even with the use of our protective coatings, we strongly recommend that standard hygienic practices be strictly followed.



301-864-3828

POWDER COATINGS

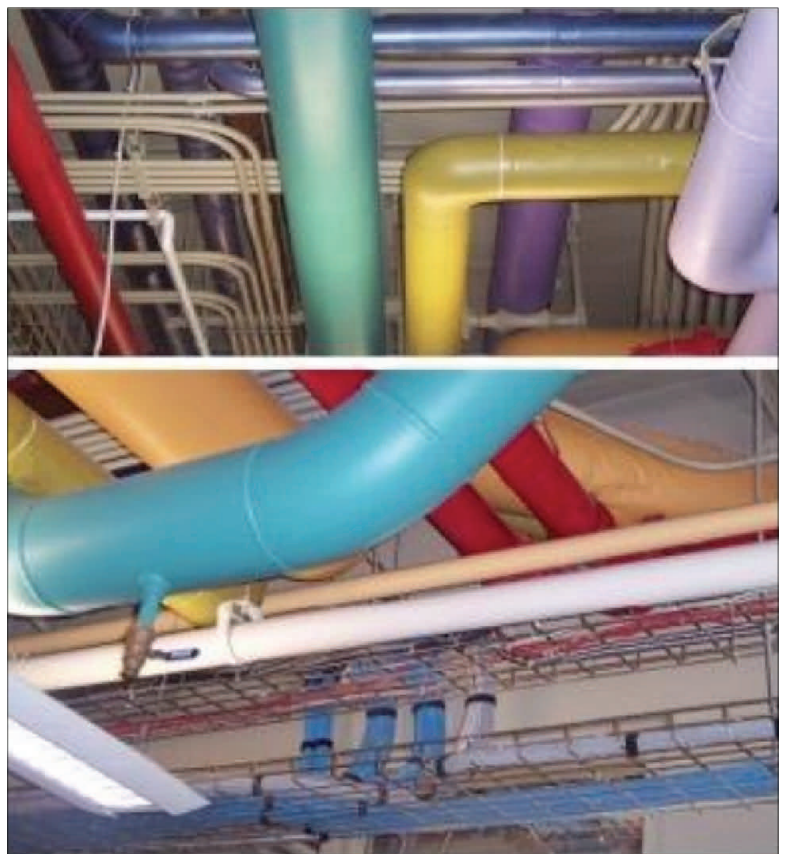


The assortment of colors is ever changing from day to day between these manufacturers of some of the best powderized paint or powder coatings on the market today. We have taken the liberty to provide you with a link from the number one source of colors in the United States, if not of all of the world. **Pantone** along with **Umbrella Workshop** have provided these free downloads for you to get an idea of the color you would like to use and then we can attempt to match that color from one of these four manufacturers or others that are available and do meet our stringent guidelines for consistency of color and spray-ability of the powder.

<http://www.umbrellaworkshop.com/free-pantone-chart/>

HOW TO POWDER COAT

Powder coating is a process of coating metal with a plastic finish applied in powder form and baked to a fluid state to bond it to the metal surface. Powder coating has many advantages over traditional liquid coating: *It's better for the environment, applies thicker without running, and is easy to style with. Although certain aspects of powder coating can be tricky, it's certainly not difficult, especially for an enterprising soul. Proper cleaning and tools can be the difference between an amateur and a good powder coating job.*





301-864-3828

APPLYING THE POWDER COAT

1. **Determine the type of finish desired to powdercoat.** Powdercoating is done with thermoplastic or thermoset polymer powder. These materials are formulated for bonding with different metals to give the best results.
2. **The powder coat you apply will adhere to your duct** (if properly applied)
3. **Clean the surface thoroughly.** Chemical solvent cleaning will remove any grease, oil , or paint, and light sanding can be done to finish preparing the surface.
 - For example, you might sand-blast what you would like to powder coat to get it down to bare metal. This would be your first step in this process. If you don't have access to a sandblaster, you can use a wire wheel, a bench-grinder, or even sandpaper. Although I'm sure this would work out fine, I don't think anyone could afford this except the Federal Government. I wouldn't recommend it to our customers and didn't prepare the duct in this manner for a very high end car dealer that certainly could have afforded it. We are not talking a 5% or a 10% add on, we're talking a 30%-50% additional charge.
 - The next step would be to strip the surface of any remaining grime or gunk. This can be done by soaking the item in acetone (if the item is small enough) or by wiping it with an acetone-soaked rag.
4. **Apply the powder to the object to be powder coated.** This is done using a "gun" or compressed air sprayer.

THIS PARAGRAPH HAS BEEN DELETED BY THE EDITORS OF THIS CATALOG TO MINIMIZE ITEMS THAT WON'T BE OF ANY CONCERN TO OUR CUSTOMERS.

Make sure that you have your electrostatic charge hooked up to whatever part you are coating. The powder you use won't properly adhere unless it's given a charge to hold onto.

- After applying the coat but before curing, be very careful not to brush or blow on the powder coat, because this will cause some of the powder to fall off, which will leave you with a less precise coat.
5. **Cure the metal at a temperature appropriate for the powder material that you have used.** A conventional oven is suitable for this purpose if the metal is small enough to fit, otherwise, an infrared heat lamp or other flame less heat source needs to be used. Normally, the object is heated to 350° to 375° F (175° to 190° C) for about 10 to 15 minutes, and then allowed to cool.



301-864-3828

THERMOSETS v. THERMOPLASTICS

- Use thermoplastic coating for items you might eventually remold, and thermoset coating for items that will remain essentially permanent.** The main difference between thermoplastic and thermoset is the reversibility of the coat. Like their name implies, thermoset coating cannot re-melt after undergoing an irreversible chemical bonding process. Conversely, thermoplastic coating can remelt because no chemical process takes place.
- Choose thermotype based on some of the features of the coat.** Thermosets and thermoplastics have different chemical properties, making them ideal for different uses. Knowing some of these properties will help you choose which type to use:
 - Thermosets** are said to reinforce the structural integrity of an item, making them particularly suitable for heavy wear-and-tear. They also supply the item with superior chemical and heat resistance.
 - Thermoplastics** offer a mixture of strength and flexibility. They are commonly used for items such plastic bags and even mechanical parts.
- Know the advantages and disadvantages of thermosets.** Thermosets are often used to coat appliances because of the heat they can withstand.
 - Advantages:** Beautiful aesthetic look; cheap; added strength and stability; resistant to extreme temperatures.
 - Disadvantages:** irreversible process means thermoset can't be recycled; more difficult to finish; can't be reshaped.
- Know the advantages and disadvantages of thermoplastics.** Thermoplastics are used for many items, such as park benches, that require both plasticity

Advantages: high lubricity or tack; recyclable; able to remolded and/or reshaped; increased impact resistance.

Disadvantages: more expensive (usually); can melt off if overheated.

(We would like to thank Wikihow for their article "Powder Coating For Dummies" which we cited to come up with an understandable explanation of the Powder Coating process.



301-864-3828



HVAC Deluxe Starter Kit - REDLINE

27 Tools and FREE bags of Zip-in and Bit-Tip Screws kitted in a TB1 Soft-Sided Tool Bag or TBP33 Tool Backpack



- C5R REDLINE Pipe Crimper – 5 Blade
- SL1R REDLINE Snap Lock Punch
- N1R REDLINE Hand Notcher
- S2R REDLINE Hand Seamer
- 12F Folding Tool
- 18 Divider
- M2001 Aviation Snip - left cut
- M2002 Aviation Snip - right cut
- M2005 Bulldog Aviation Snip
- M14N 14" (362 mm) Aluminum Handled Pattern Snip
- A0 1/8" (6.35 mm) Scratch Awl
- A1 7/32" (5.54 mm) Scratch Awl
- SH3 Setting Hammer
- T416M 1" x 16' Magnetic Tape Measure
- W29 Hex Key Set
- DB1 Dead Blow hammer
- DS2 Offset Duct Stretcher
- MSH1/4 Magnetic Hex Chuck Driver
- MSH5/16 Magnetic Hex Chuck Driver
- HHD1S 1/4" Magnetic Hex Driver
- HHD2S 5/16" Magnetic Hex Driver
- L9M Torpedo Level
- TY4G Tie Tool- Standard Grip
- TS1 TurboShear
- HC1 Hole Cutter
- 4MC24 Recip Blade 6L 24T
- RD6 6IN1 Reversible Driver
- HW8x1/2ZG Zip-ins 100 pack FREE
- BT143X Bit-Tips 100 pack FREE

For your convenience, we will be stocking all of the items as singles as well as the complete kits and canvas bags, as well as anything else that you would like us to order for you from the Malco catalog.

Cutting Tool Solutions Page 1

Jobber Drills

	XL8 Heavy Duty Drills Sizes - 1/16" to 1/2", Letters & Numbers Stainless steel & tough alloys	
	XQ0 Heavy Duty BlackGold Drills Sizes - 1/16 to 1/2", Letters & Numbers	
	700T TiN Coated Drills Sizes - 1/16 to 1/2" & Numbers Max. Speeds/Feeds in Production Drilling	
	708SP Heavy Duty Drills Sizes - 3/64 to 1/2", Letters & Numbers	
	708 Steam Oxide Treated Drills Sizes - 1/64 to 11/16", Letters & Numbers	
	408 Bright Finish Drills Sizes - 1/64 to 1/2", Letters & Numbers	
	US8 Steam Oxide Treated Sizes - 1/16 to 1/2", Letters & Numbers	
	USHD Steam Oxide Treated Sizes - 1/16 to 1/2", Letters & Numbers	
	708C Cobalt Drills Sizes - 1/64 to 1/2", Letters & Numbers Stainless Steels & Tough Alloys	
	XL8 Metro Drills Sizes - 1.0mm to 13.0mm x 0.5mm Stainless Steels & Tough Alloys	
	708 Metro Drills Sizes - 0.25mm to 17.50mm	
	XL8LH Left Hand Drills Sizes - 5/64", 7/64", 5/32", 1/4" & 19/64" Drill broken bolts in left hand rotation	
	708LH Left Hand Drills Sizes - 1/16 to 1/2"	

Reduced Shank/Screw Machine/S&D Drills

	XL28 Mechanics Length Drills 3 Flatted Shanks - Sizes - 1/16 to 1/2" Stainless Steel and Tough Alloys	
	XM28 Mechanics Length Drills 3 Flatted Shanks - Sizes - 25/64 to 1/2" Straight Shank	
	XL38 Heavy Duty 3/8" Shank Sizes - 25/64 to 1/2" Stainless Steel and Tough Alloys	
	XQ38 BlackGold 3/8" Shank Drills Sizes - 25/64 to 1/2"	
	738 3/8" Shank Drills Sizes - 25/64 to 11/16"	
	CS14 1/4" Shank Screw Machine Drills Sizes - 9/32 to 1/2"	
	XL12 1/2" Shank S&D Drills 3 Flats - Sizes - 33/64 to 1-1/2" Split Point for Stainless Steel & Tough Alloys	
	XQ12 1/2" Shank S&D Drills Sizes - 33/64 to 1-1/2" Split Point - 3 Flats	
	712 1/2" Shank S&D Drills Sizes - 33/64 to 1-1/2"	

Reduced Shank/Screw Machine/S&D Drills

	712C0 Cobalt 1/2" Shank S&D Sizes - 17/32 to 1-1/2"	
	US12 1/2" Shank S&D Drills Sizes - 33/64 to 1-1/2"	
	1708C Cobalt Screw Machine Sizes - 3/64 to 1/2", Numbers & Letters	
	1708 Split Point Screw Machine Sizes - 3/64 to 1/2", Numbers & Letters	















Taper Shank/Taper Length Drills

	702 Taper Shank Drills Sizes - 1/8 to 3-1/4"	
	S1 Taper Sleeves, S2 Taper Sockets and D1 Drift keys	
	704 Taper Length Drills Sizes - 3/64 to 1-3/4"	

Screw Extractors

	X1 Spiral Flute Screw Extractors Sizes - 1 to 12	
	X2 Straight Flute Screw Extractors Sizes - 1 to 7 (sets available)	

Extra Length Drills

	1800 18" Longboy Drills Sizes - 3/16 to 1"	
	1212 12" Longboy 1/2" Shank Sizes - 17/32 to 1"	
	1200 12" Longboy Drills Sizes - 1/8 to 3/4"	
	7012 12" Aircraft Extension Sizes - 3/64 to 1/2" & Numbers	
	CS12X 12" Aircraft Extension Sizes - 1/8 to 1/2" & Numbers	
	7008 8" Aircraft Extension Sizes - 3/64 to 3/8", Numbers & Letters	
	CS8X 8" Aircraft Extension Sizes - 1/16 to 1/2", Numbers & Letters	

Step Drills

	MSD HEX Multi Step Drills Hex Shank, Split Point, Titanium Nitride Coated 1/8-1/2" to 1/4 x 1-1/8"	
	MSD Multi Step Drills HSS, Split Point 1/2 x 1/8" to 1-1/2 x 1/4"	

Cutting Tool Solutions

Carbide Drills

	CT706 Carbide Tipped Looksmith Drills Sizes - 1/8 to 1/2"	
	CT806 Carbide Tipped Die Sizes - 3/16 to 3/4"	
	CT806 Glass & Tile Drills Sizes - 1/8 to 5/8"	
	706CT Carbide Tipped Twist Sizes - 1/8 to 1/2"	
	106 Solid Carbide Drills Sizes - 1/32 to 1/2"	

Miscellaneous

	1806 Double End Sheeter Drills Sizes - 7/64 to 1/4" & #30	
	2006 Corrugated Construction Drills For use in the fabrication of steel buildings	
	706-Pilot Drill for Holesaws 1/4" diameter, 3 slab, 4" length, split point	
	Gauge Plates Fractional, Metric, Letters & Numbers	
	XLUB Cutting Fluid & Wax Available from 2 ounce to 1 gallon	

Reamers

	XL86 Hex Shank Bridge Reamers Sizes - 11/16 to 1-5/8"	
	XL86M Hex Shank Magneto Bridge Reamers Sizes - 11/16" to 1-3/16"	
	HX80 Hex Shank Car Reamers Sizes - 11/16 to 1-3/16" (Straight Flute)	
	HX82 Hex Shank Car Reamers Sizes - 11/16 to 1-3/16" (Spiral Flute)	
	HX82M Hex Shank Magneto Car Reamers Sizes - 11/16 to 1-3/16"	
	SA80 Straight Shank Car Reamers Sizes - 5/16 to 1-1/2"	
	982 Taper Shank Bridge Reamers Sizes - 7/16 to 1-5/8" (Spiral Flute)	
	980 Taper Shank Bridge Reamers Sizes - 7/16 to 1-5/16" (Straight Flute)	
	776 Straight Flute Taper Pin Reamers Sizes - 7/0 to 10	
	778 Spiral Flute Taper Pin Reamers Sizes - 7/0 to 10	
	777 Fast Spiral Flute Taper Pin Reamers Sizes - 7/0 to 10	


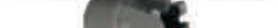

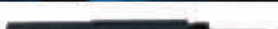


Carbide Tipped Hole Cutters

	CT3 Carbide Tipped Hole Cutters Sizes - 5/8 to 1-3/8" Ideal for cordless power tools and materials up to 1/8" thick. 1/4" hex shanks for use with quick release adaptors.	
	CT6 Carbide Tipped Hole Cutters Sizes - 9/16 to 5" Faster drilling and longer life in materials up to 3/16" thick.	
	CT7 Carbide Tipped Hole Cutters Sizes - 9/16 to 4-1/2" For drilling thick (up to 1") and thin materials, ferrous and non-ferrous.	
	CT9 Carbide Tipped Hole Cutters Sizes - 1-1/2 and 2-1/8" Ideal for steel door installation.	

Hole Cutter Accessories

	CT-EXT Hole Cutter Extensions 4" Extensions for CT5 & CT7	
	QCD Quick Change Driver For 1/4" and 3/8" hex shank tools	
	QCD-EXT Extensions For 1/4" and 3/8" hex shank tools 6, 12 & 24" Lengths	

Sheet Metal Cutters

	SMC Sheet Metal Cutters 1/4" to 1-1/2" Diameters	
	SMC Arbors & Pilots For 1/4" and 3/8" hex shank tools	
	SMC Accessories & Sets Sheet Metal Cutter Accessories & Sets	

Carbide Burs

	Carbide Burs - Double Cut Titanium Nitride Coated Shapes - SA to SM / Sizes - 1/8 to 1"	
	Carbide Burs - Non Ferrous Shapes - SA to SL / Sizes - 1/8 to 3/4"	
	Radius Burs SBGRA / SC5RA / SF5RA Sizes - 1/2"	
	Carbide Burs - Miniature Double Cut Shapes - SA to SM / Sizes 1/16 to 1/4"	
	Carbide Fiberglass Routers Sizes - FGR-1 to FGR-9	

Cutting Tool Solutions

Tool Bits

High Speed, Cobalt & Brazed Carbide Tool Bits

	816 High Speed Square Tool Bits Sizes - 1/8 to 1-1/4"	
	816 Cobalt Square Tool Bits 5% Cobalt Sizes - 1/8 to 1-1/4"	
	Carbide Tool Bits / Turning Bits Styles - AL/AR/BL/BR/C/D/E	

Countersinks

	XL801 Single Flute Countersinks Sizes - 1/4 to 2" - 60 / 82 / 90 / 100 & 120° Stainless Steel and Tough Alloys	
	800 Four Flute Machine Countersinks Sizes - 1/2 to 1" - 60 / 82 & 90°	
	799 Three Flute Countersinks Sizes - 1/4 to 1" - 60 / 82 / 90 / 100 & 120°	
	799L Large Four Flute Countersinks Sizes - 1-1/4 to 2" - 60 / 82 & 90°	
	790 Combined Drill & Countersinks HSS / Plain Style / 60° Included Angle	
	190 Combined Drill & Countersinks Solid Carbide / Plain Style 60° Included Angle	
	CSK Countersinks / Deburring Tools Zero Flute 82° Pilotless Ideal for Glaziers	
	CSK-SH Countersinks / Deburring Zero Flute / 1/4" Shank / HSS	
	CSKA / DBK Zero Flute Countersinks Zero Flute 100° / HSS	

Taps & Dies

	DT22/DT22M Combined Drill & Taps Standard & Metric Sizes - 4-40 to 12x1.75	
	DT22T Combined Drill & Taps Titanium Nitride Coated Sizes - 4-40 to 12x1.75	
	DT22HEX Combined Drill & Taps Hex Shank - Standard and Metric Sizes - 6-32 to 12x1.75	
	XLT Power Tapper • High Production Tapping • Auto-reverse • Pivoting Tap Collet • Controlled Speeds • Built-In Safety Clutch • For All Standard Square Shank Taps: #10 to 5/8" in aluminum #10 to 9/16" in steel	
	XL22 Heavy Duty Spiral Point Taps Sizes - 4-40 to 3/4-16	
	XL22M Metric Heavy Duty Spiral Point Taps Sizes - 4x.7 to 16x2	
	XL22T Heavy Duty Spiral Point Taps TiN Coated Sizes - 4-40 to 3/4-16	

Taps & Dies

	321/321M Spiral Point Taps Sizes - 0-80 to 3/4-16 Standard Sizes - 1.6x.35 to 20x2.5 Metric	
	321T TiN Coated Spiral Point Taps Sizes - 6-32 to 3/4-16	
	308 High Speed Steel Hand Taps Sizes - 0-80 to 1-1/2-12	
	308LH/308M Left Hand & Metric High Speed Steel Hand Taps Sizes 10-32 to 1-1/4 & 1.6x.35 to 56x5.5	
	302/302M Carbon Steel Hand Taps Sizes - 4-40 to 1-1/2-12 Standard 3x.5-P to 18x2.5-P Metric	
	XL46 Heavy Duty Spiral Flute Taps Sizes - 6-32 to 1/2-20	
	3006 Pulley Taps Sizes - 1/4-20 to 5/8-11	
	1308 Nut Taps Sizes - 1/4-20 to 1/2-13	
	3088 8 Thread HS Hand Taps Sizes - 1-1/8 to 4"	
	324/324H Taper Pipe Taps Regular / High Sizes - 1/6-27 to 2-11-1/2	
	324I Taper Pipe Interrupted Thread Sizes - 1/8-27 to 2-11-1/2	
	326 Straight Pipe Taps Sizes - 1/8-27 to 1-11-1/2	
	304 Carbon Steel Taper Pipe Taps Sizes - 1/8-27 to 2-11-1/2	
	330/330LH/330M Sizes - 6-32 to 2-1/2-12, 1/8 to 1" NPT 3.5x.6 to 27x3, 1/4-20 to 1-14 LH	
	3308 Hex Rethrading Dies 8 Thread - Sizes - 1-1/8 to 4"	
	328 Sorew Adjustable Round Dies Sizes - 6-32 thru 1-14"	
	CS30/CS30M Hex Rethrading Dies Carbon Steel Sizes - 4-40 to 1-14 Metric Carbon Steel Sizes - 3x.5 to 18x2.5	

Tap & Die Accessories

	3306 Hex Converter for Round Dies Sizes - 13/16 thru 2"	
	2002/3002 'T' Handle Tap Wrenches Sizes - 1/16-1/4, 7/32-1/2, 0-1/4, 1/4-1/2	
	3001 Bar Handle Tap Wrenches Sizes Ranges - 1/16 to 2-1/2"s	
	3291/3292 Round & Hex Die Stocks Sizes Ranges - 13/16 to 2"	


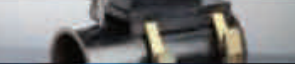


CHAMPION







CUTTING TOOL CORP

Cutting Tool Solutions Page 4

End Mills		
	106 Solid Carbide End Mills 2 Flute Sizes - 1/32 to 1"	
	107 Solid Carbide End Mills 2 Flute / Double Ended Sizes - 1/8 to 1/2"	
	600 HSS End Mills 2 Flute Sizes - 1/8 to 2"	
	600T TiN Coated HSS End Mills 2 Flute Sizes - 1/8 to 2"	
	XL600 Cobalt TiN Coated End Mills 2 Flute Sizes - 1/8 to 1-1/4"	
	602 High Speed End Mills 2 Flute / Double End Sizes - 1/8 to 1"	
	602C0 Cobalt End Mills 2 Flute / Double End Sizes - 1/8 to 1"	
	601 High Speed End Mills Multi Flute Sizes - 1/8 to 2"	
	601T TiN Coated HSS End Mills Multi Flute Sizes - 1/8 to 2"	
	XL606 TiN Coated Cobalt End Mills Multi Flute Sizes - 1/8 to 1-1/2"	
	604 Ball Nose High Speed End Mills 2 Flute / Single End Sizes - 1/8 to 1-1/2"	
	606 High Speed End Mills 4 Flute Sizes - 1/8 to 1-1/2"	
	603 High Speed End Mills 4 Flute / Double End Sizes - 1/8 to 1"	
	607 High Speed End Mills 4 Flute / Double End Sizes - 1/8 to 1"	
	607C0 Cobalt End Mills 4 Flute / Double End Sizes - 1/8 to 1"	
	609 Cobalt Roughing End Mills Multi Flute Sizes - 1/2 to 2"	
	166 Solid Carbide End Mills 4 Flute / Square End / Right Hand Helix 1/16 to 1"	
	167 Solid Carbide End Mills 4 Flute / Double End / Right Hand Helix 1/8 to 1/2"	

RotoBrute Magnetic Drill Presses		
	NEW SB35 SmartBrute Automatic Drill Press Auto Cutter Capacity - 1-3/16" Manual Capacity - 1-3/8"	
	AC35 MiniBrute Cutter Capacity - 1-3/8" Drill Capacity - 3/4"	
	AC60 MightiBrute Cutter Capacity - 2-1/8" Drill Capacity - 1"	
	RB30 LittleBrute Low Profile Cutter Capacity - 1-3/8"	
	RB32 MiniBrute Cutter Capacity - 1-3/8"	
	RB32-VSR MiniBrute Variable Speed Reverse Capability Cutter Capacity - 1-3/8"	
	RB65E MegaBrute Cutter Capacity - 4" Drill Capacity - 1-1/4"	

RotoBrute Magnetic Drill Press Accessories		
	RB SADDLE for Pipe Cutting Use on convex surface, steel pipe & tubing	
	RMX7 Magnetic Clean Up Tool	

RotoBrute Arbors, Chucks & Tapping Attachments		
	Industrial Arbors For RotoBrute Magnetic Drill Presses RB32, RB65, SB35, AC35 & AC50	
	Tapping Attachments Includes a range of quick change collets for RotoBrute magnetic drill presses	
	Drill Chucks For RotoBrute Magnetic Drill Presses RB32, RB65, SB35, AC35 & AC50	

Cutting Tool Solutions

RotoBrute Annular Cutters

	CT100 Carbide Tipped High performance & life in tough steels 1-3/8" Depth of cut - Sizes - 1/2 to 1-9/16"	
	CT200 Carbide Tipped High performance & life in tough steels 2" Depth of cut - Sizes - 1/2 to 4"	
	CT300 Carbide Tipped High performance & life in tough steels 3" Depth of cut - Sizes - 3/4 to 4"	
	CT400 Carbide Tipped High performance & life in tough steels 4" Depth of cut - Sizes - 3/4 to 2"	
	XL100 High Speed 1" Depth of cut Sizes - 7/16 to 4"	
	XL200 High Speed 2" Depth of cut Sizes - 7/16 to 4"	
	XL300 High Speed 3" Depth of cut Sizes - 13/16 to 4"	
	CT100STK Carbide Tipped Stack Cutter for Drilling Multiple Layers 1-3/8" Depth of cut - Sizes 5/8 to 1"	
	CT200STK Carbide Tipped Stack Cutter for Drilling Multiple Layers 2" Depth of cut - Sizes 9/16 to 1-1/4"	

RotoBrute Pilot Pins For Annular Cutters

	Pilot Pins For HSS Annular Cutters For XL100, XL200, XL300	
	Pilot Pins For Carbide Tipped Annular Cutters For CT150, CT200, CT300, CT400	

Proline Masonry Drills and Hammer Chisels

	CM6 Rotary Masonry Drills Fast Spiral / 4" Regular Length Sizes - 3/16 to 7/16"	
	CM66 Rotary Masonry Drills Fast Spiral / 6" Long Length Sizes - 1/4 to 1"	
	CSC4 Rotary / Peroussion Deep Flute / 4" Short Length Sizes - 1/8 to 1/2x1/4"	
	CSC6 Rotary / Peroussion Deep Flute / 6" Long Length Sizes - 1/4 to 3/4"	
	CM8 Rotary Masonry Drills Deep Flute / Regular Length Sizes - 1/8 to 7/16"	
	CM86 Rotary Masonry Drills Deep Flute / 6" Long Length Sizes - 3/16 to 1-1/2"	
	CM12/CM18/CM24 Masonry Drills Deep Flute / 12", 18", 24" Long Length Sizes - 3/16 to 1-1/2"	
	TGB Tapcon Masonry Drills Sizes - 5/32x3-1/2 to 3/16x6-1/2"	
	CM9eT Tapcon SDS-Plus Drills Sizes - 5/32x2x5 to 3/16x4x7	
	CM-MPB Multi-Purpose Bits For Metal, Masonry, and Wood Sizes - 1/8 to 1/2"	

Proline Masonry Drills and Hammer Chisels

	CM86 Peroussion Masonry Drills Sizes - 3/16 to 1"	
	CM79 Rebar Cutters 12" Long Sizes - 1/2 to 3" Straight Shank	
	CM79SDS Rebar Cutters 12" Long Sizes - 1/2 to 3" SDS Shank	
	CM96 SDS Plus Hammer Bits Sizes - 5/32x2x4 to 1x16x18"	
	CM9 SDS Plus Hammer Bits Sizes - 5/32x2x4 to 1x16x18"	
	CM96X SDS Plus Hammer Bits Solid Tip Cross Head Sizes - 5/32x2x4 to 1-1/4x16x18"	
	CM96 SDS Max Hammer Bits Sizes - 3/8x13 to 2x18x23"	
	CM97 Spline Shank Single Point Sizes - 3/8x3x8 to 2x17x22"	
	CM98 Spline Shank Quad Point Sizes - 5/8x5x10 to 2x18x23"	
	Quick Change Adaptors SDS Max / Spline to SDS Plus	
	CM96-STOP SDS Plus Stop Drills Centering Point / Collar Stop Sizes - 3/8x1-1/16 to 5/8x2-1/16"	
	CM09HC Hammer Core Bits Sizes - 1-3/4 to 5"	
	Hammer Core Bits Adaptors For CM96 & CM97	
	Hammer Chisels CM96, CM97, CM90, CM95, CM91 & CM99 Breaker / Demolition & Floor Chisels	
	PTC Porcelain Tile Carbide Drills Penetrate Class 5 Tile Sizes - 3/16", 1/4", 9/32" & 5/16"	
	PTC3 Porcelain Tile Diamond Drills Penetrate Class 5 Tile Sizes - 3/16 to 1-3/8"	
	PTC4 Multi Purpose Hole Cutters Drill Tile, Masonry, Plastics & Wood Sizes - 3/4 to 4"	

Proline Wood Bits & Accessories

	8048 Bellhanger Drills 12", 18", 24" & 30" Lengths	
	8700 / 8800 Auger Extensions 8700 Sizes - 12", 18" & 24" 8800 Sizes - 18" & 24"	
	8018 17" Auger Drills Sizes - 3/8 to 1-1/2"	
	8006 Heavy Duty Auger Drills 6" Long Sizes - 1/2 to 1-1/2"	
	8001 Wood Boring Flat Bits 6" Long Sizes - 1/4 to 1-1/2"	



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At the present time we will stock the Non-OSHA compliant and the OSHA compliant drills that meet the new OSHA silica regulations.