



Duct and Fittings

Technical Training

FläktGroup[®]
SEMCO[®]

Single Wall Round and Oval



Dual Wall Round and Oval



Gasket, Flange & Slip Joints



Velocity Gasket™



Manifold Fittings





- Solid welded (not available for PVC coated)
- Tack welded and sealed

Note: Most of our competition will bid tack weld and sealed fittings even when specs indicate solid weld. Know what your engineer will accept!



Round & Oval Duct

- **Sizes**

- Round

- Spiral sizes 3" - 22"Ø (1" increments)
- Spiral sizes 24" - 100"Ø (2" increments)
- Rolled sizes to 100+"Ø

- Oval

- 350 spiral sizes with minors 4"ID - 32"OD
- Any rolled size



10 AM



Round & Oval Duct

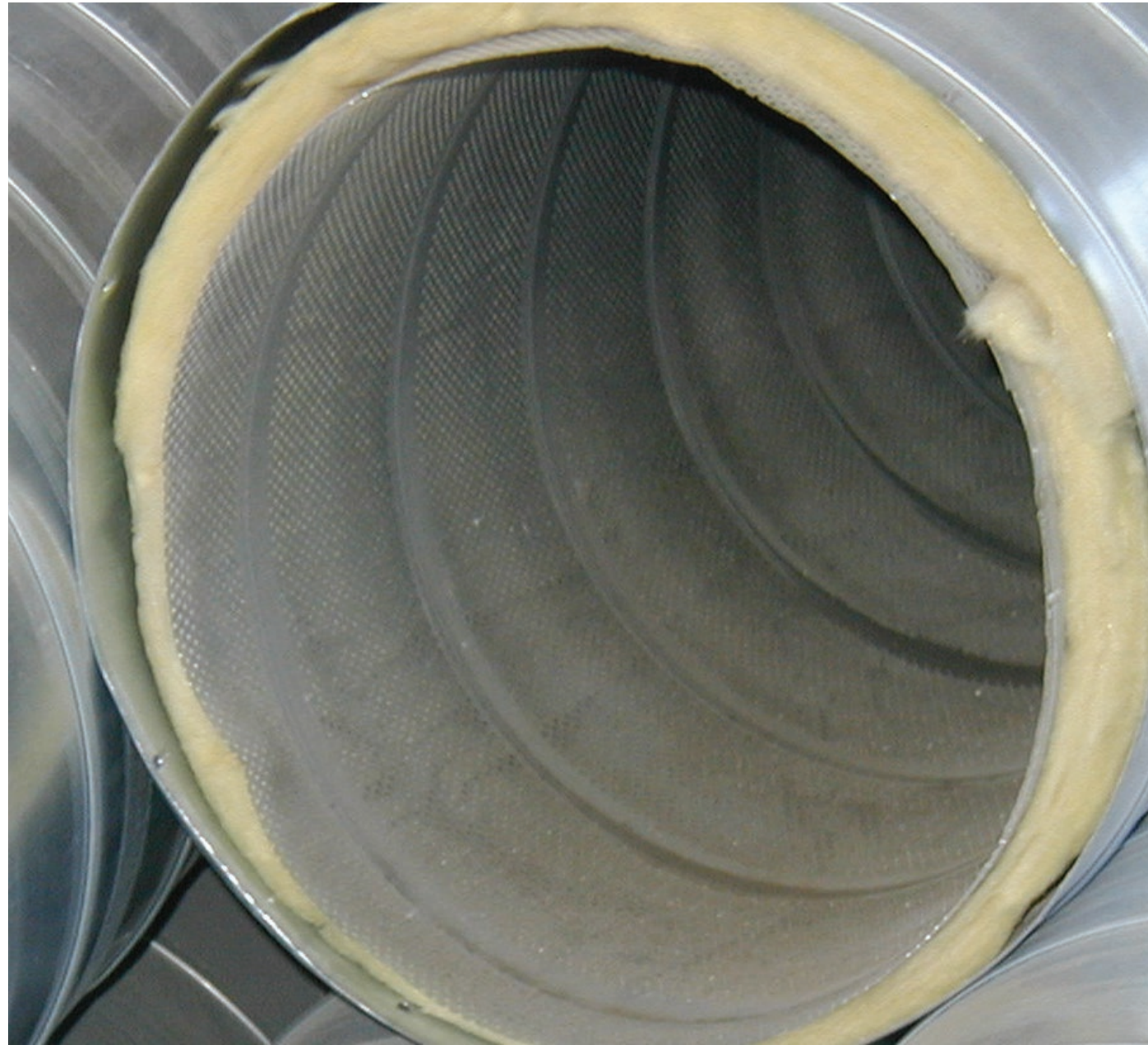
Materials & Coatings

- Galvanized steel G90
- Paintable galvanneal steel
- Stainless steel - 304 or 316
 - 2B or #4 Finish
- Aluminum - 3003 H14 alloy
- PVC coated steel - 4x4 coating
- Black iron - hot rolled
- AVRON46[®] antimicrobial coating
- Powder coating – RAL or custom colors
- Custom coating – Tnemec, epoxy, ect.



Basic Elements

- Solid outer pressure shell
- Fiberglass insulation with k factor of .26, additional insulations
- Perforated or solid metal liner in
- 1", 2", 3" or 4" thick insulation
- Optional barriers – Mylar[®], Tedlar[®], vinyl, fiberglass cloth





It's Round for a Reason

Feature	Advantage	Benefit
Longer lengths	Lower installation cost	Savings for contractor
Lower air leakage	Energy efficient	Less fan hp
Lower airflow resistance	Less energy consumption	Savings for end user
Lower airflow resistance	Less dirt accumulation	Reduces microbial growth

It's Round for a Reason

Feature	Advantage	Benefit
Spiral / Rolled construction	Tighter joints	Less leakage
Round shape	Aesthetically pleasing	Use for exposed applications
Minimal deflection	Less breakout noise	Lower NC levels
Oval shape	Can accommodate spatial limitations	Use in place of rectangular

Deliver the Air, Not the Noise

Feature	Advantage	Benefit
Acoustical control	Quieter	Less complaints
Factory insulated	Reduced heat loss and gain	More energy efficient
Factory insulated	Reduces field labor	Save time and money
Fabricated at plant w/exacting tolerances	Easier to install	Save time and money
Fabricated at plant w/exacting tolerances	Less air leakage	More energy efficient

Product in review

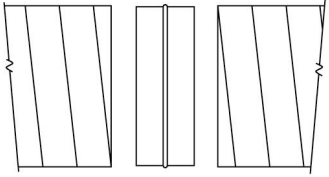
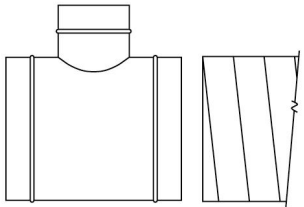
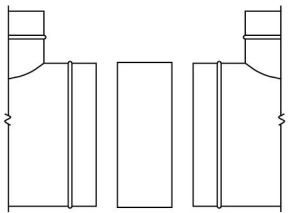
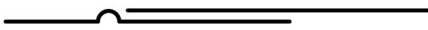
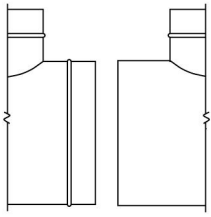
Availability	Standard fittings & pipe components Customized fittings & pipe components Manifold components
Sizes	Round spiral duct up to 100" in diameter Round longitudinal seam duct to 100+" in diameter Oval spiral duct in 350+ sizes with minors 4"ID-32"OD Oval longitudinal seam duct in any size
Materials	Aluminum • Black iron • Galvanized steel • PVC coated Galvanized steel • Stainless steel
Options	Velocity Gasket™ self-sealing joint connection Mylar®, Tedlar®, vinyl & fiberglass cloth wraps Solid or perforated liner

Largest variety of proprietary connections available

Type	Round		Oval	
	SW	DW	SW	DW
Slip (standard)	✓	✓	✓	✓
Accuflange™	✓	✓	✓	✓
SpiralMate® & Ovalmate	✓	✓	✓	✓
Angle rings	✓	✓	✓	✓
Velocity Gasket	✓	✓	—	—



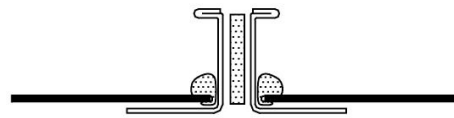
Because we are a custom manufacturer we allow customizing ends from male to female. This is particularly helpful when providing slip connections for double wall duct!

Duct to Duct Male Coupling 	
Fitting to Duct Male to Female 	
Fitting to Fitting Female Coupling 	
Fitting to Fitting Male to Female 	

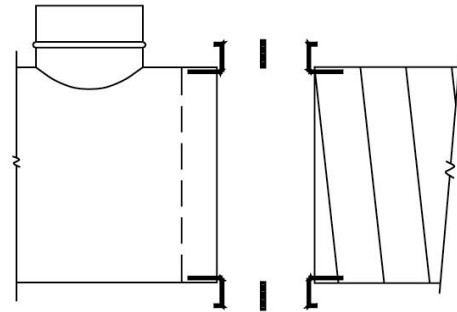


Available in both single wall and dual wall duct.

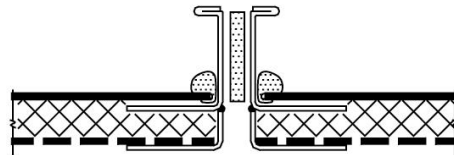
Single Wall Connection



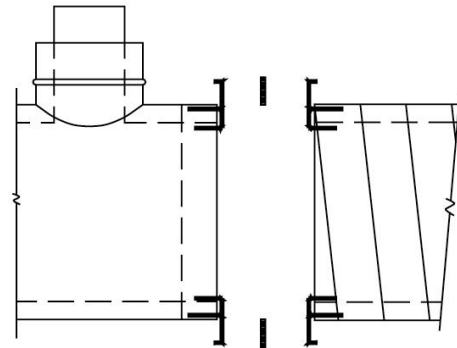
ACF ACF
Accuflange Connection



Dual Wall Connection with Sealed Off Insulation

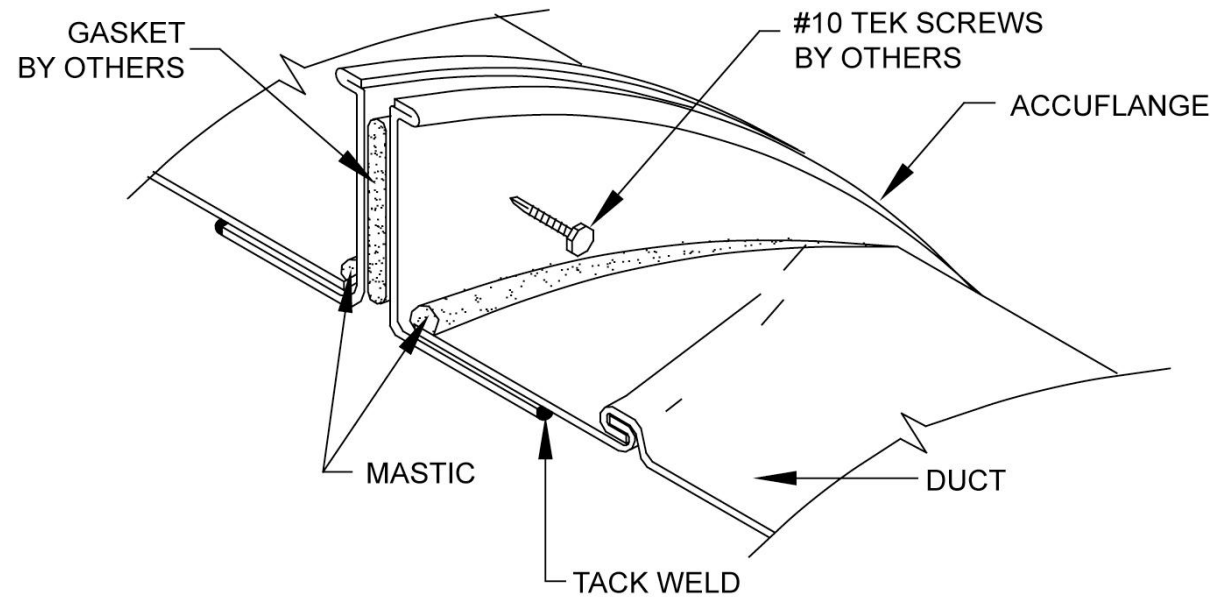


ACF ACF
Accuflange Connection



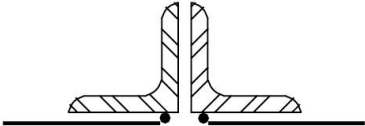
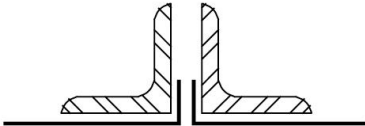
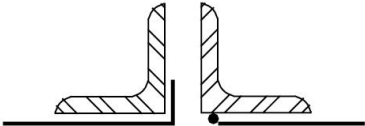
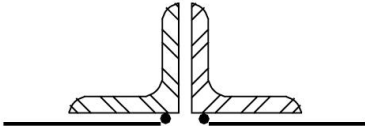
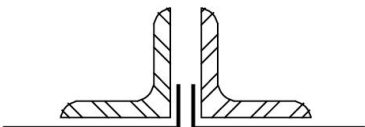
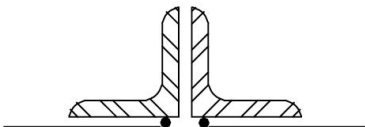


AccuFlange™ Connections



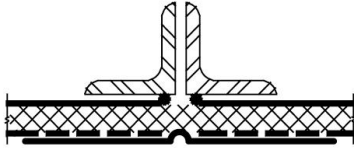
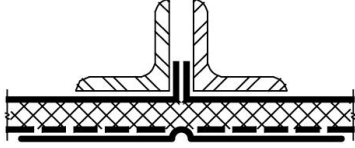
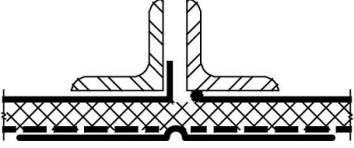
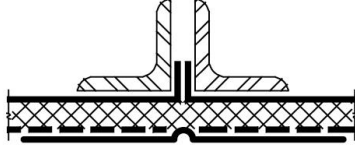
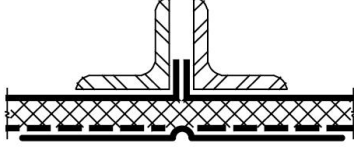
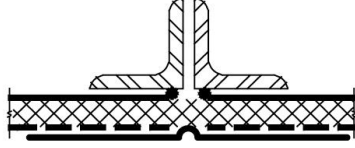


Angle Ring Connections (SW)

Duct to Duct	 ASW ASW Solid Weld Solid Weld Standard for Round Standard for Round Standard for Oval Standard for Oval	 AVS AVS Vanstone Vanstone Optional for Round Optional for Round
Fitting to Duct	 AVS ASW Vanstone Solid Weld Standard for Round Standard for Round Standard for Oval Standard for Oval	 ASW ASW Solid Weld Solid Weld Optional for Round Standard for Round Standard for Oval Standard for Oval
Fitting to Fitting	 AVS AVS Vanstone Vanstone Standard for Round Standard for Round	 ASW ASW Solid Weld Solid Weld Optional for Round Optional for Round Standard for Oval Standard for Oval



Angle Ring Connections (DW)

Duct to Duct with Liner Coupling	 ASW ASW Solid Weld Solid Weld Standard for Round Standard for Round	 AVS AVS Vanstone Vanstone Optional for Round Optional for Round
Fitting to Duct with Liner Coupling	 AVS ASW Vanstone Solid Weld Standard for Round Standard for Round	 AVS AVS Vanstone Vanstone Standard for Round Optional for Round
Fitting to Fitting with Liner Coupling	 AVS AVS Vanstone Vanstone Standard for Round Standard for Round	 ASW ASW Solid Weld Solid Weld Optional for Round Optional for Round



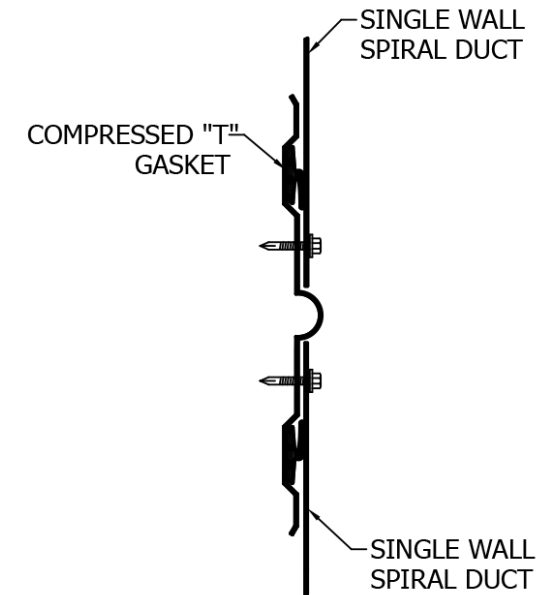
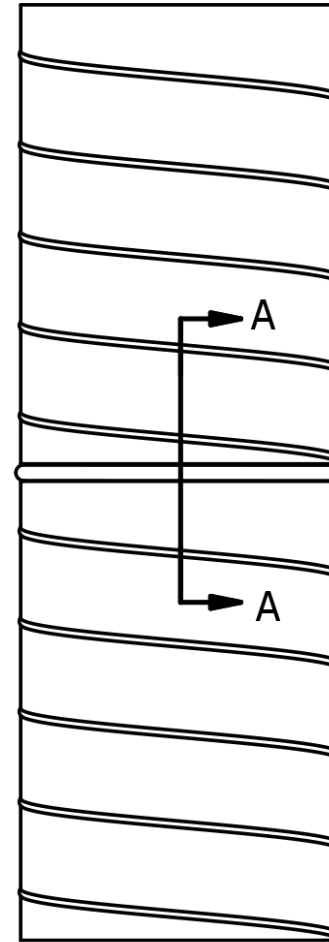
- Exceeds SMACNA's leakage class 3, at +/- 10" w.g.
- Galvanized or Galvanneal material
- Single wall, dual wall, manifold duct
- Available in most common sizes between 4" ID – 24" OD
- Service temperature from -65°F to 248°F





Velocity Gasket

- LEED certified low emitting sealants
- Clean seams that do not require sealer or tape
- Tapered edge profile strengthens fitting while providing ease in alignment and installation
- Velocity Gasket can be piece marked and labeled, making for easier installation and organization at a job site.



SECTION A-A
VELOCITY DUCT
GASKET CONNECTION

Product in review**Availability**

On single and dual wall
On manifolded duct

Sizes

4" ID to 24" OD

Materials

Galvanized steel

Performance

Meets SMACNA's leakage class 3, at +/- 10" w.g.

**Independently
Tested**

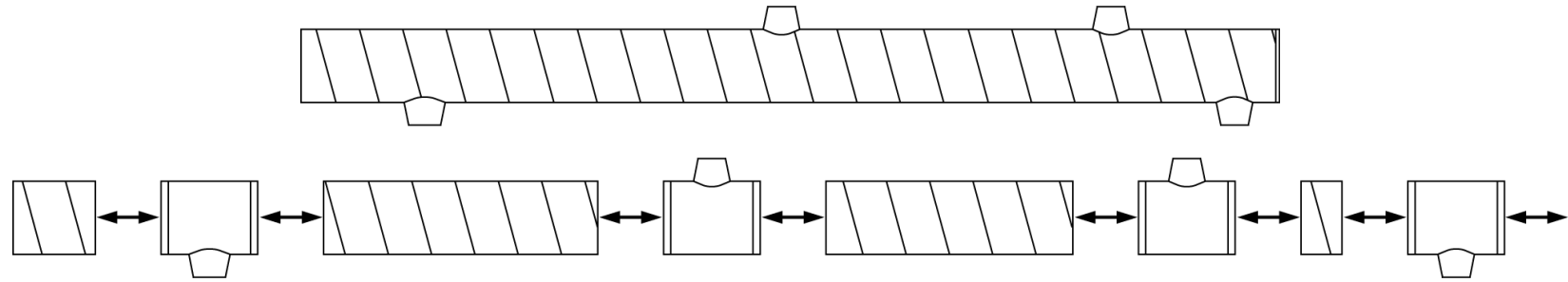
ASTM E84-00a / NFPA 255, meeting NFPA 90A
requirements: Flame Spread – 0 and Smoke – 0

Clean and Easy

Feature	Advantage	Benefit
Joint connection	Easy to install	Save time and money
Gasket design	Frictionless	Install with less effort
Meets leakage class 3	Preferred by Engineers	Meet specification
Clean connections	Visually appealing	Exposed applications
Patented	One of a kind	Work with the best



Put together, so you don't have to



Advantage	Benefit
Factory installed fittings	Maintain factory quality
Low air leakage	Better air delivery system
Fewer field joints to cut & seal	Reduces installation time

Product in review

Availability	On single wall and dual wall duct
Sizes	Round spiral duct up to 100" in diameter Round longitudinal seam duct to 100+" in diameter Oval spiral duct in over 350 sizes with minors 4"-32" Oval longitudinal seam duct in any size
Materials	Aluminum • Black iron • Galvanized steel • Galvanneal steel • Stainless steel

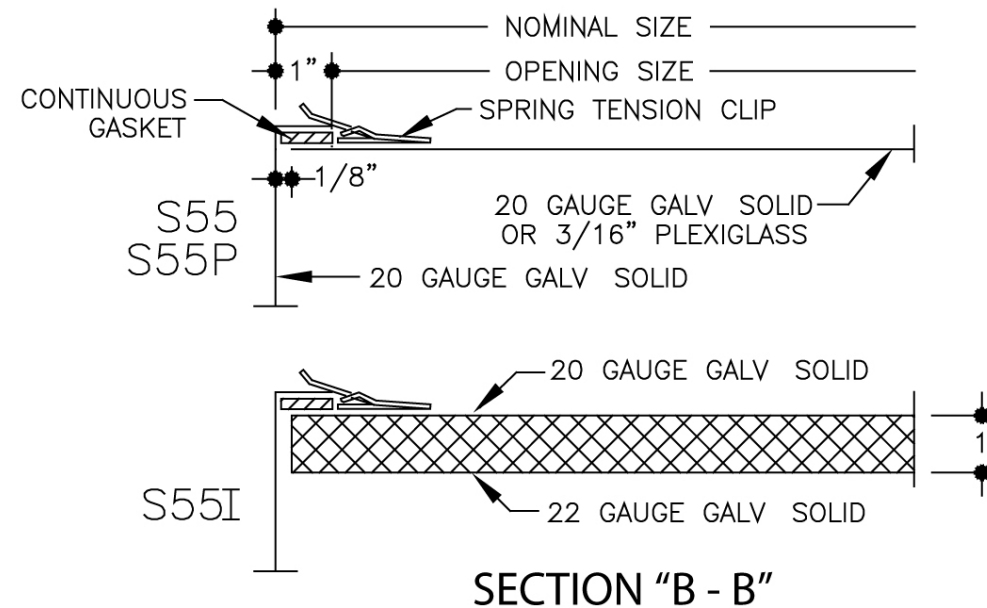
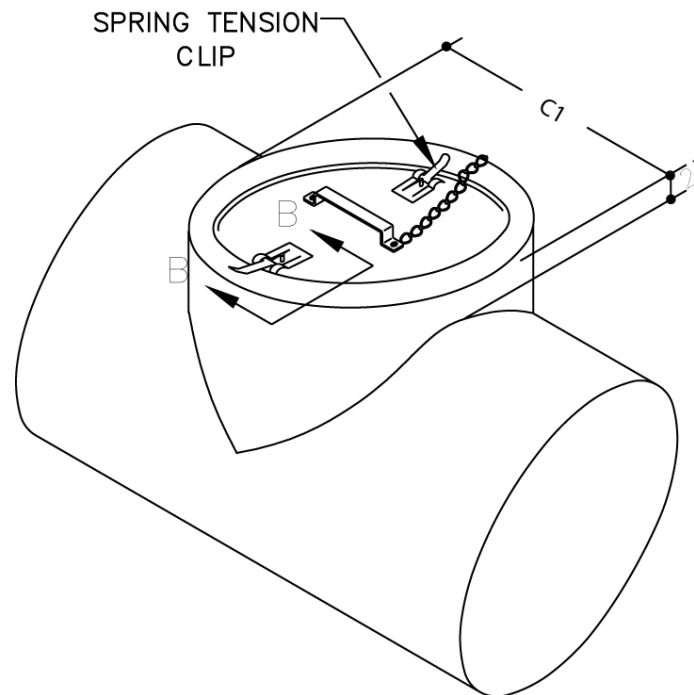
Feature	Advantage	Benefit
Large range of sizes	Entire project	Single source
Piece marked and tagged	Less material handling	Saves time and labor
Custom configurations and lengths available	No measuring and no cutting	Save time and money
Optional flanges factory installed	Easier to install	Save time and money
Fewer joints	Easier to install	Save time and money

Feature	Advantage	Benefit
Fabricated at plant w/exacting tolerances	Easier to install	Save time and money
Velocity Gasket	Less air leakage	More energy efficient
Velocity Gasket	Easy to install	Save time and money
Velocity Gasket	Reduce leakage	No need for sealant



Access Doors

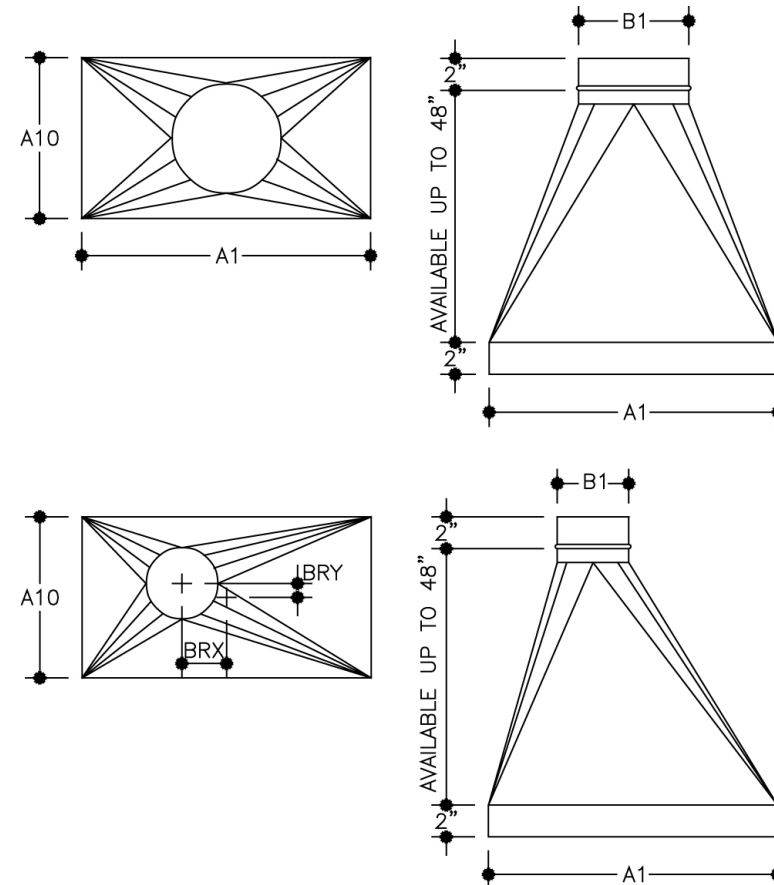
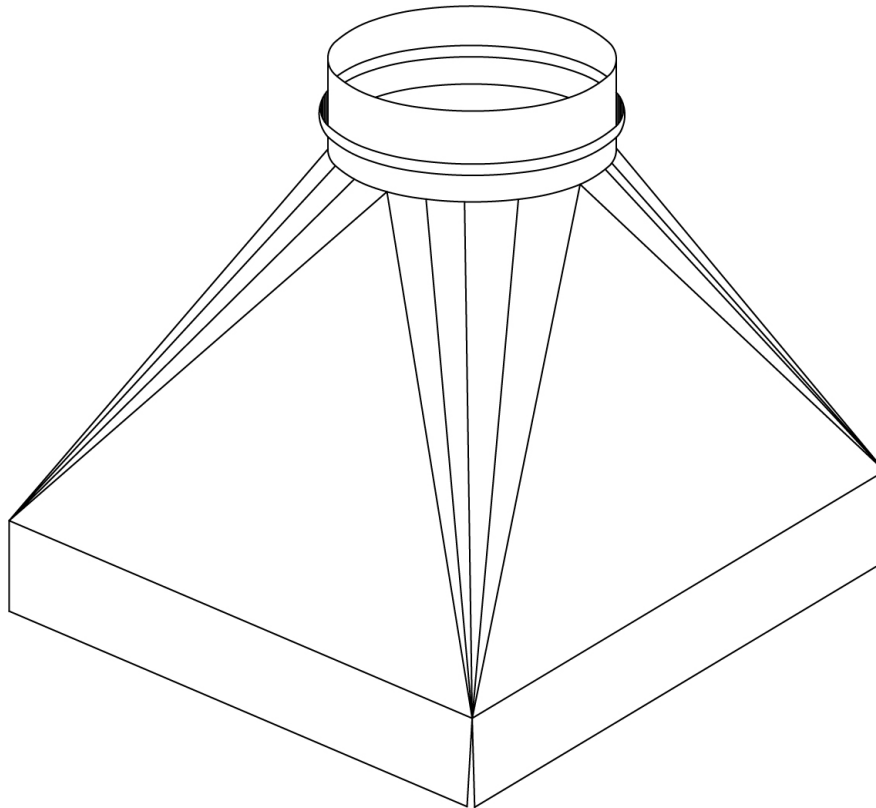
- Some competitors do not make or supply.
- Commonly supplied loose for single wall and installed for double wall.





Rectangular to Round Transitions

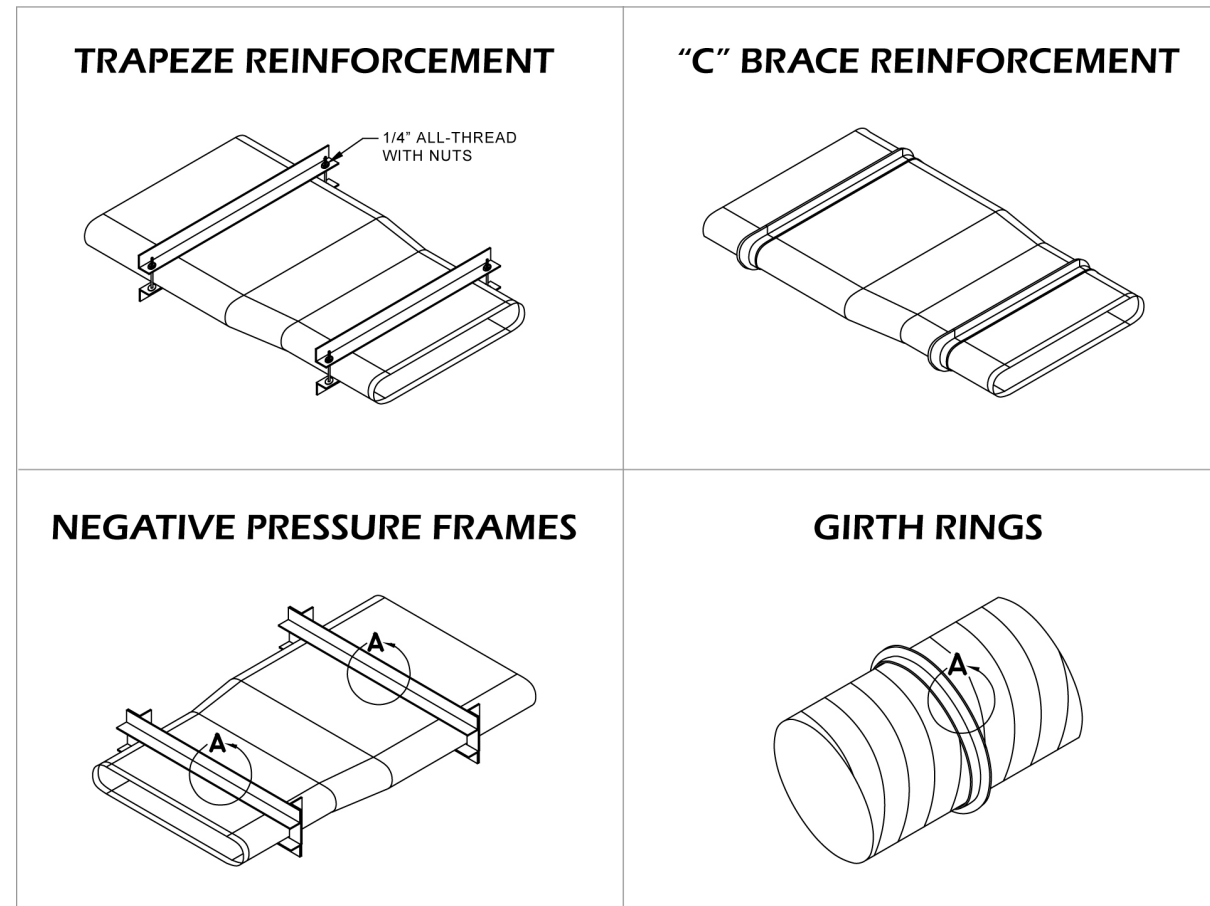
Most competition will not quote on bid day





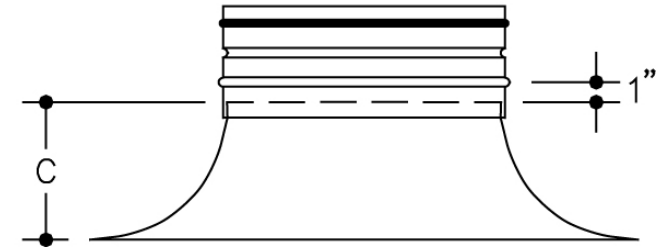
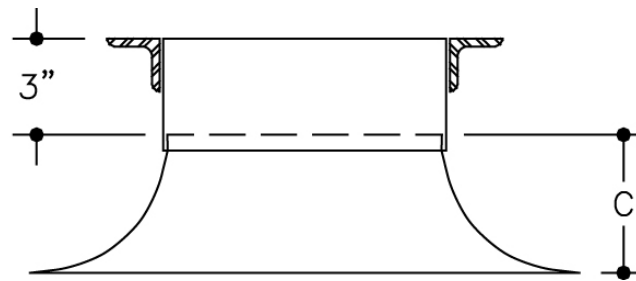
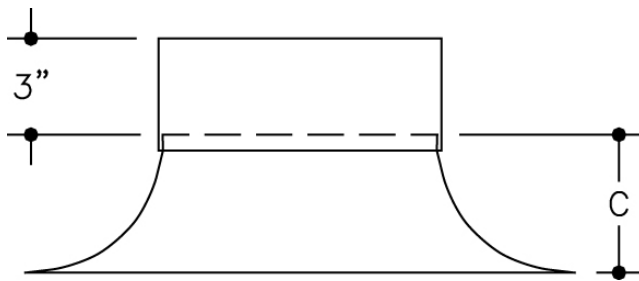
Reinforcement

Most competition leaves this up to the contractor to supply and will not quote.



Bellmouths

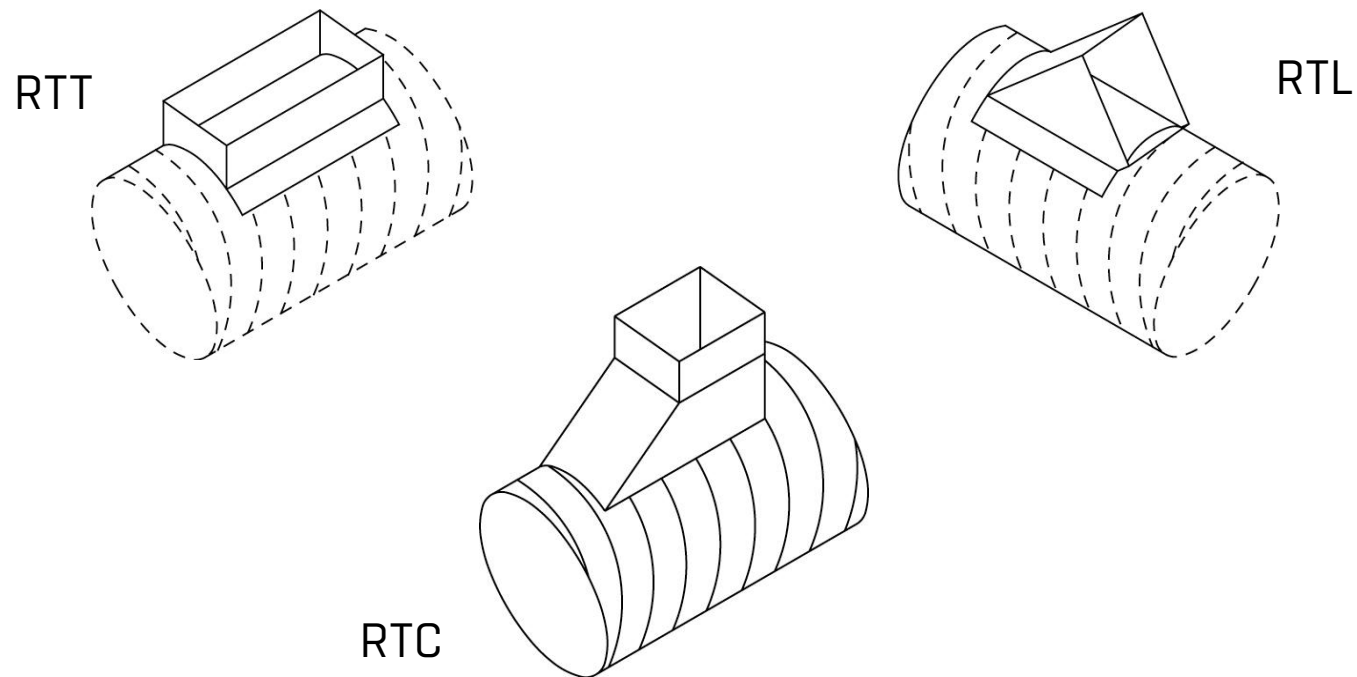
Frequently supplied as flat take-offs by competitors.





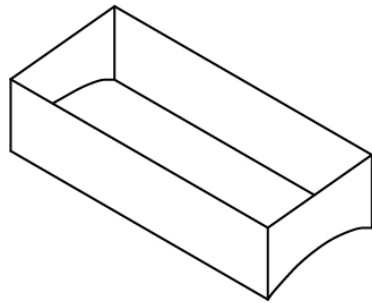
Rectangular Taps

Most common to supply loose on single wall, and installed on double wall. Provide single wall tap on double wall duct.

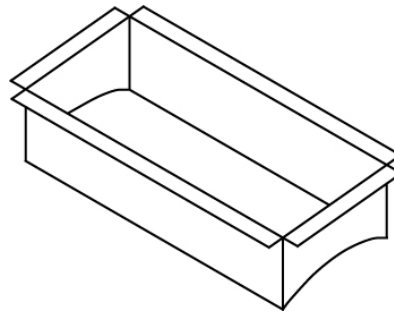


Rectangular Taps

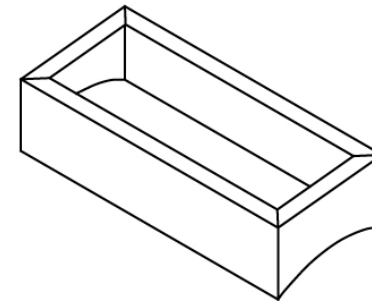
Flanges to accept air device.



Raw end configuration should only be used when supplying a rectangular tap intended to connect to rectangular duct.



The above configuration is less costly than the 1" flange turned in. It is generally acceptable, but can collect dust and will not look as nice as the flange turned in.



The flange turned in tends to be the most quoted and supplied of the register taps. It is the easiest to work with in the field and generally looks the nicest when installed.

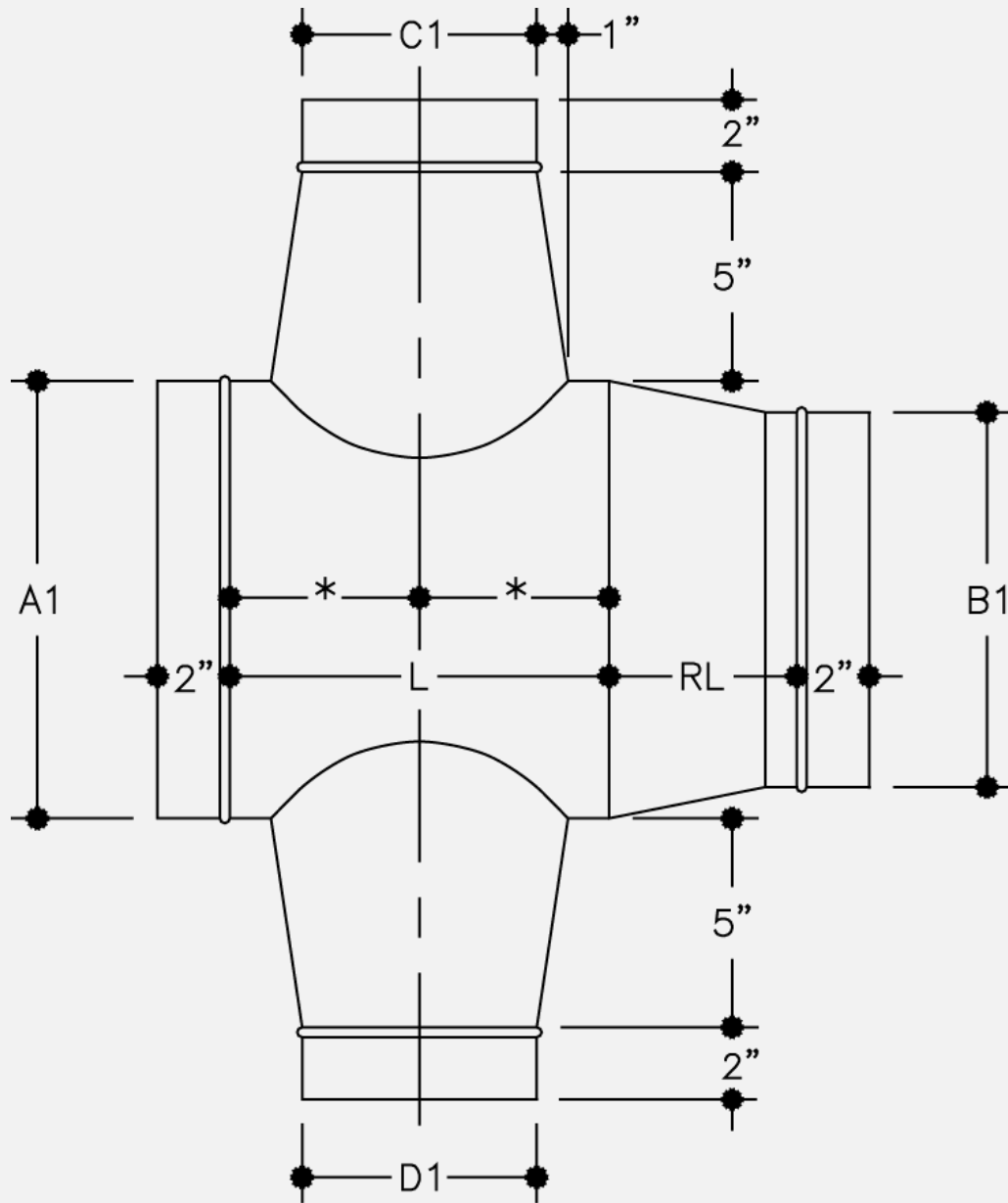


Miscellaneous section in catalog

- Volume Dampers
- Diffus-A-Plate Duct Diffusers
- Perforated Spiral Pipe
- Blast gates

Feature	Advantage	Benefit
Large range of sizes	Entire project	Single source
Piece marked and tagged	Less material handling	Saves time and labor
Custom configurations and lengths available	No measuring and no cutting	Save time and money
Optional flanges factory installed	Easier to install	Save time and money
Fewer joints	Easier to install	Save time and money

Feature	Advantage	Benefit
Fabricated at plant w/exacting tolerances	Easier to install	Save time and money
Fabricated at plant w/exacting tolerances	Less air leakage	More energy efficient
Velocity Gasket	Easy to install	Save time and money
Velocity Gasket	Reduce leakage	No need for sealant



Tools

- An AutoCAD based, comprehensive drafting utility custom designed for SEMCO by ASVIC, developers of Mech-Q Drafting Software.
- All of SEMCO's cataloged round and flat oval duct and fittings products are included in single wall, dual wall, spiral and rolled constructions. Full ranges of standard and custom duct sizes are available.

Tools

MicroLink – is the most comprehensive estimating and ordering software system in the industry today.

The screenshot displays the 'MicroLink Sound Beta -- Current Job -- 00001 -- Comparison Takeoff' window. The interface includes a menu bar with options like Job List, Sound TO, Sound Price, Sound Quote, Sound Submittal, Sound Order, and Tools. Below the menu is a toolbar with buttons for File, Option, Banks, Select, Search, Repeat Search (F3), and DBA Selection Program. The main area features a table with columns for Line, Mark #, Model, Width, Height, Length, CFM, P.D., and Qty. The table contains several rows of data, including a highlighted row for 'SA-1' with a 'BANK' model. Below the table, there are input fields for CNA, CNB, and Comments. At the bottom, there are various configuration options including Shape (Rectangular, Round, Elbow), Dwg, Floor, Solid Mat, Shell Ga., System, Zone, Perf Mat, and Liner Ga.

Line	Mark #	Model	Width	Height	Length	CFM	P.D.	Qty		
1	SA-1	BANK	204	x	120	x	60	80000	0.25	2
2		ST2505	30	x	30	x	60	80000	0.25	24
3		ST2505	24	x	30	x	60	80000	0.25	4
4	SA-2	ST2505	48	x	48	x	60	5000	0.25	4
5		ST2505	24	x	24	x	60	2000	0.25	10
6	SA-3	ST2505	24	x	24	x	60	2000	0.25	1
7										



Piece Marking

Mfg. By SEMCO Duct and Acoustical (SMWIA, Local #100)

Job#: **RO53678** Plate: **2** Piece: **5** Ga: **24P**

Qty = **9** Block: 38.937 x 44.463

Desc: **E90** SINGLE WALL

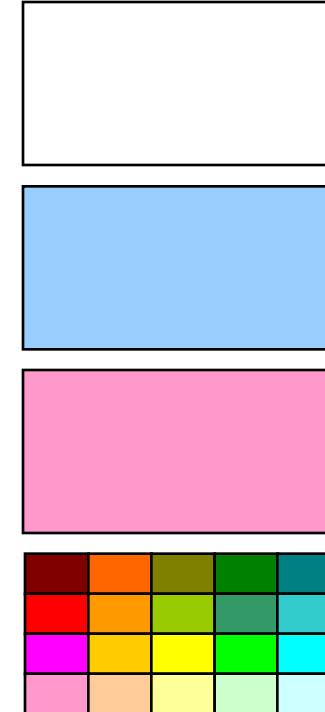
Dims: **14** **14**

MALE MALE

/GOR=5/Deg=90

Item #: **7**

Order: 71733-1





How to Successfully Quote a Job

- Identify the systems and applications you are quoting
- Determine the construction required for each system
- Price the lowest cost material and accessories that will meet the requirements
- Know what your engineer will accept!



BMS

m^3/h

Life Cycle Cost

Air Comfort

Efficiency

Sustainability