



**ALUMINUM MECHANICAL DUCTWORK**

## LIGHTWEIGHT HVAC DUCTWORK

Mechanically seamed rectangular 3003 aluminum ductwork for lightweight HVAC air distribution, return, exhaust, and equipment connections.

- Best for rectangular HVAC duct systems where lightweight aluminum material and Pittsburgh lock seam construction are acceptable.
- Offered in 26 ga through 18 ga 3003 aluminum; heavier gauges or continuous welded seams should move to welded aluminum duct.
- Confirm connection type, liner/insulation, seal class, visible faces, and face-to-face dimensions before release.

MATERIAL	<b>3003 Aluminum</b>
GAUGE RANGE	<b>26 ga - 18 ga</b>
CONSTRUCTION	<b>Pittsburgh lock seam</b>

### CONSTRUCTION STANDARD

<b>Application</b>	Rectangular aluminum ductwork and fittings for lightweight HVAC supply, return, exhaust, rooftop equipment connections, and standard air distribution systems.
<b>Material</b>	3003 aluminum is standard for aluminum lock seam duct unless another material requirement is quoted.
<b>Gauge range</b>	Aluminum lock seam duct is offered from 26 gauge through 18 gauge. Heavier aluminum duct is typically quoted as welded aluminum duct.
<b>Seam construction</b>	Pittsburgh / mechanical lock seam construction. This is a formed aluminum duct product, not a fully welded duct system.
<b>Straight sections</b>	Produced in nominal duct sections and field-fit lengths as released. Connection style affects face-to-face dimensions and should be selected before fabrication.
<b>Connection options</b>	Raw ends with couplers, slip-and-drive, TDC / Ductmate, and angle rings are available as shown or quoted.
<b>Insulation options</b>	Fiberglass liner, rigid duct board insulation, and Armaflex options are available for acoustic or thermal protection when quoted.
<b>Quality check</b>	Duct sections and fittings receive visual inspection before release. Leak testing, pressure testing, or certified inspection are by others unless quoted.

### BUILD QUALITY



**Made to spec**

Built to released dimensions, gauge, liner, and connection details.



**Built tough**

3003 aluminum formed for lightweight mechanical ductwork.



**Quality checked**

Duct sections and fittings receive visual inspection.



**Lightweight**

Good for mechanical packages where reduced weight matters.

## FABRICATION CAPABILITIES

<b>Duct sections</b>	Rectangular aluminum straight duct, field-fit pieces, risers, drops, and custom lengths.
<b>Fittings</b>	Rectangular aluminum elbows, radius bends, offsets, tapers, reducers, transitions, branches, and tees.
<b>Connections</b>	Raw ends with couplers, slip-and-drive, TDC / Ductmate, angle rings, equipment transitions, collars, curb adapters, and roof penetration fittings are available.
<b>Field-fit work</b>	Short sections, piece-marked runs, and coordinated connection faces.
<b>Shop details</b>	Tabs, brackets, companion flanges, angle frames, reinforcement, and special flange details when requested.
<b>Release support</b>	Built from released dimensions with connection type, liner requirements, seal class, access openings, and piece marks coordinated before fabrication.

## LINER & INSULATION

### Fiberglass liner

Acoustic or thermal fiberglass liner is available in 1/2" through 2" thicknesses when specified.

### Rigid duct board

Rigid duct board insulation can be quoted where the project needs additional thermal or acoustic protection outside the normal liner scope.

### Armaflex

Armaflex options are available when the project requires flexible closed-cell insulation details.

### Attachment

Liner is installed with water-based adhesive and spot welded liner pins unless another attachment method is quoted.

## CONNECTION OPTIONS



COUPLERS

### Raw ends

Raw ends with couplers for screw assembly.



S & DRIVE

### Slip-and-drive

Standard rectangular duct connection for mechanical assembly.



TDC / DUCTMATE

### Bolted seal

Bolted frame connections with gasket or butyl sealant when specified.



ANGLE RINGS

### Custom pattern

Angle rings, frames, and bolt patterns to match the application.

## OPTIONAL ACCESSORIES

### Liner

Fiberglass liner, rigid duct board insulation, Armaflex, liner pins, adhesive, and exposed-edge details.

### Access

Access doors, cleanout openings, inspection panels, and drain fittings.

### Sealing

Gasket, butyl sealant, mastic, or seal class details where specified and quoted.

### Custom details

Reinforcement, tabs, brackets, piece marks, angle rings, and special hardware.

## REQUIRED FOR QUOTE / RELEASE

✓ 3003 aluminum gauge, duct size, quantity, connection type, and required nominal or field-fit lengths.

✓ Approved drawing, sketch, or verified field dimensions with airflow/orientation noted.

✓ Connection details: raw ends with couplers, slip-and-drive, TDC / Ductmate, angle rings, bolt patterns, or companion flange needs.

✓ Liner or insulation type, thickness, exposed edges, access needs, and any acoustic or thermal requirements.

✓ Piece marks, access openings, reinforcement, pressure class, seal class, visible-face handling, and any testing requirements.

## APPLICATIONS & DETAILS



### APPLICATION DETAIL

#### Lightweight rectangular duct



Formed aluminum ductwork serves projects that need lighter material, corrosion resistance, or non-galvanized construction. Rectangular sections, fittings, transitions, and equipment connections can be coordinated around the released sizes and connection details.

### APPLICATION DETAIL

#### Best applications



Well suited to HVAC supply, return, exhaust, and equipment connections where aluminum is specified and welded construction is not required. It provides a practical lightweight option for rooftop, exposed, and specialty mechanical applications.



3003  
Alum.

Gauge

Liner

Ends

### APPLICATION DETAIL

#### Release details



Confirm 3003 aluminum, gauge, connection style, liner or insulation, openings, and field-fit dimensions before fabrication. Visible faces, finish expectations, reinforcement, accessories, and included hardware should also be identified on the release.

## NOT INCLUDED UNLESS QUOTED

- Installation, hoisting, rigging, roofing, roof penetration work, or field sealing unless quoted.
- Engineering, permits, inspections, balancing, cleaning, finish repair, or listed-system certification.
- Leak testing, pressure testing, fire wrap, fire-rated enclosure, gaskets, sealant, hardware, companion flanges, or rework from changed release dimensions unless quoted.

## SCOPE & RESPONSIBILITY

**Code note:** Aluminum lock seam duct systems may be governed by mechanical code, local code, project specifications, pressure class, liner requirements, material compatibility requirements, and AHJ requirements. Empire fabricates duct and fittings to released dimensions and quoted scope; final system design, material selection, installation method, field sealing, insulation requirements, clearances, balancing, and acceptance remain the responsibility of others unless expressly included.

## READY TO QUOTE?



### Let's get your project moving.

Send drawings, sketches, photos, or field measurements. Empire is ready to go to work for you.

[quotes@empiremetalproducts.com](mailto:quotes@empiremetalproducts.com)

602-424-9980