PREFERRED MANUFACTURERS

GENERAL INFORMATION

1.1 Manufacturers on this list fall into four categories:

a. Preferred Manufacturer: Approved manufacturers for use on Columbia University projects.

b. Conditional Approval: Manufacturers approved for certain projects. Contact Columbia University Facilities for approval to use on new projects.

c. Under Consideration: Manufacturers being evaluated. Do not specify unless approved in writing from Columbia University Facilities.

d. Hold/Removed: Manufacturers have been removed, generally for poor performance or unresolved issues on past projects. These manufacturers should not be specified for any project.

This list is intended to cover major equipment vendors listed in the Specification sections. Often, ancillary vendors used to construct the equipment are listed within the specification sections (e.g. pipe and duct sealants, firestopping, etc.). This list does not absolve the Engineer of Record from reading and complying with the requirements set forth in the Specification Sections and sound engineering practices.

1.2 Corrections/Substitutions

If there are errors in model numbers or manufacturers listed, or if a model is no longer available, notify Columbia University Facilities in writing for a clarification. A response regarding the Correction or Substitution will be provided.
LISTING OF PREFERRED MANUFACTURERS

2.1 Architectural Section Product/Equipment Listing

a. 07 52 00 - Modified Bitumous Membrane Roofing
   1. Siplast - Preferred Manufacturer

b. 08 52 00 – Wood Windows
   1. Artistic Doors and Windows; 10 S. Inman Avenue, Avenel, NJ 07001; Contact: Guy Cichy 732.726.9400; 800.278.3667
   2. J.S. Benson Woodworking & Design, LLC; 118 Birge Street, Brattleboro, VT 05301; Contact: 802.254.3515; 800.339.3515
   3. Tradewood Windows; 75A Lake Road, Suite-164, Congers, NY 10920; Contact: Joseph Valentino 845.675.7825
   4. The Woodstone Company; 1164 North Main Street, North Walpole, NH 03609; Contact: Mike Robarge 800.682.8223
   5. Zeluck Architectural Wood Windows and Doors; 5300 Kings Highway, Brooklyn, NY 11234; Contact: 800.233.0101

c. 09 30 13 – Ceramic Tiling
   1. American Marazzi Tile, Inc.
   3. Crossville Ceramics Company, L.P.
   4. Daltile; Div. of Dal-Tile International Inc.
   5. Lone Star Ceramics Company.
   6. Monarch Tile, Inc.
DESIGN REQUIREMENTS

7. Summitville Tiles, Inc.

d. 09 51 13 – Acoustical Panel Ceilings
   1. Armstrong World Industries, Inc
   2. USG Corporation.

e. 09 65 19 – Resilient Tile Flooring
   1. Armstrong
   2. Azrock
   3. Forbo
   4. Mannington Commercial

e. 09 67 23 - Resinous Flooring
   1. Dex-O-Tex
   2. Dura-Shield
   3. Sika-Flex

f. 09 68 16 – Sheet Carpeting
   1. Patcraft Commercial
   2. Bigelow Commercial
   3. Mannington Commercial
   4. Cambridge Commercial
   5. Mohawk Commercial
   6. Interface floor Commercial

g. 09 90 00 – Painting
   1. Benjamin Moore

h. 10 11 00 – Visual Display Boards
DESIGN REQUIREMENTS

1. AARCO Products, Inc.
2. Allaincewall Corp.
3. Claridge Products and Equipment, Inc.
4. Greensteel, Inc.
5. Lemco, Inc.

i. 10 21 13 – Toilet Compartments
   1. Accurate Partitions Corp.
   2. All American Metal Corp.
   3. American Sanitary Partition Corp.
   4. Ampco Products, Inc.
   5. Flush-Metal Partition Corp.
   7. Global Steel Products Corp.
   8. Knickerbocker Partition Corp.
   9. Lambaton-University Metal Products.
   10. Metpar Steel Products Corp.
   11. The Mills Co.
   12. Monarch Toilet Partitions, Inc
   13. Sanymetal Products Co.

j. 10 26 13 – Corner Guards
   1. Arden Architectural Specialties, Inc.
   2. InPro Corporation
   3. Pawling Corporation

k. 10 28 13 – Toilet Accessories
   1. Kimberly Clarke
   2. Bobrick
DESIGN REQUIREMENTS

I. 10 44 00 – Fire Protection Accessories

   1. Ansul Inc.
   2. Larsen’s Manufacturing Co.
   3. Encon Safety Products

3.1 Mechanical Section Equipment Listing

   a. 23 05 00 - Chilled Water System Overview

      1. No Manufacturers under this section.

   b. 23 05 03 - Pipes and Tubes for HVAC Piping and Equipment

      1. No Manufacturers under this section.

   c. 23 05 16 - Expansion Joints and Loops

      1. Expansion Joints - Bellow Type (Packless)

         a) Badger Company Series 300

         b) Adsco Company

      2. Expansion Joints - Slip Joint (Packed) For Steam Piping

         a) Advanced Thermal Systems

         b) Adsco Company

         c) Hyspan

      3. Anchor and Guides

         a) Grinnell

         b) Metraflex

   d. 23 05 23 - General-Duty Valves for HVAC Piping

      1. Ball Valves (4" and Smaller)
DESIGN REQUIREMENTS

a) Apollo 70-10X Series (70-20X Series for Solder)

b) Jamesbury 351 (341 for Solder)

c) Watts 8-6000 Series (8-6000 Series for Solder)

2. Drain Valves (Ball)

a) Apollo

3. Gate Valves (2" and Smaller)

a) Milwaukee 1169

b) Stockham 8-124

4. Gate Valves (2-1/2" and Larger)

a) Milwaukee F-2885

b) Stockham G-623

c) Crane 465-1/2

5. Globe Valves (2" and Smaller)

a) Milwaukee 590T

b) Stockham B-22T

c) Crane 7TF

6. Globe Valves (2" and Larger)

a) Crane 151

7. Butterfly Valves (High Performance)

a) Jamesbury HP 815L - Preferred Manufacturer

b) Keystone K Lok

8. Plug Valves (2" and 3"")

a) Nordstrom wrench-operated
DESIGN REQUIREMENTS

9. Plug Valves (4” and Larger)
   a) Nordstrom worm gear operated

10. Swing Check Valves (2” and Smaller)
    a) Milwaukee
    b) Stockham B-309/319
    c) Crane T/S-433

11. Swing Check Valves (2” and Larger)
    a) Milwaukee F-2974
    b) Stockham G-931
    c) Crane 373

12. Spring Check Valves (2” and Smaller)
    a) Mueller 105M-BP

13. Spring Check Valves (2” and Larger)
    a) Mueller 105M-AP

14. Flow Control Valves (2” and Smaller)
    a) Belimo - Preferred Manufacturer
    b) Flow Control
    c) Johnson Control Inc.

15. Flow Control Valves (2-1/2” and Larger)
    a) Belimo - Preferred Manufacturer
    b) Flow Control

16. Triple Duty Valves
DESIGN REQUIREMENTS

a) NONE - Triple Duty Valves are NOT to be used on any Columbia University Project, NO exceptions.

e. 23 05 29 - Hangers and Supports for Piping and Equipment

1. Pipe Hangers, Inserts, Saddles, Beam Clamps
   a) B-line Systems, Inc.
   b) Carpenter & Patterson. Inc.
   c) Grinnell Corp.

2. Channel Support Systems
   a) B-Line Systems, Inc.
   b) Grinnell Corp.; Power-Strut Unit
   c) Thomas & Betts Corp.
   d) Unistrut Corp.

3. Thermal-Hanger Shield Inserts
   a) Carpenter & Patterson, Inc.
   b) Pipe Shields, Inc.
   c) Value Engineered Products, Inc.

4. Expansion Shield
   a) Grinnell
   b) Hilti, Inc.
   c) Pipe Shields Inc.

5. Pre-Insulated Pipe Supports
   a) Pipe Shields, Inc.

6. Pre-Insulated Riser Clamps:
DESIGN REQUIREMENTS

a) Pipe Shields, Inc.

7. Sleeves - Link Seal
   a) Century Line Sleeve, Thunderline Corp.

f. 23 05 53 - Identification for Piping and Equipment
   1. No Manufacturers under this section.

g. 23 05 93 - Testing, Adjusting, and Balancing for HVAC
   1. No Manufacturers under this section.

h. 23 07 00 - Mechanical Insulation
   1. Pipe Insulation Type A - Calcium Silicate
      a) Manville, Thermo 12
   2. Pipe Insulation Types B and C - Glass Fiber
      a) Owens-Corning, Evolution Pipe Insulation with ASJ
      b) Knauf - Pipe Insulation With ASJ
      c) Certainteed - Type 500 Snap-on with ASJ
      d) Manville - Micro-Lok 650 With AP-T Plus Jacket
   3. Pipe Insulation Type D - Foam
      a) Armstrong - Type AP ARMAFLEX
      b) Nomaco, Inc. - Type THERMA-CEL

4. Pipe Inserts
   a) Grinnell
   b) B-Line

5. PVC Covering (Elbows and Fittings)
   a) Zeston - **Preferred Manufacturer**
DESIGN REQUIREMENTS

b) Proto

c) Ceel-co

6. Pipe Shields

a) Grinnell Figure 186

7. Duct Insulation - Flexible Glass Fiber

a) Owens-Corning Fiberglass - Foil-faced duct wrap.

b) Knauf - Type ECOSE with foil face

c) Certainteed – Softouch with foil face

8. Duct Insulation - Rigid Glass Fiber

a) Owens-Corning - Type ASJ-705

b) Knauf – Duct board with ECOSE

c) Certainteed - Certapro

9. High Temperature Applications - Calcium Silicate

a) Manville

b) Industrial Insulation Group

10. Tank Enclosures and Accessories - Semi-Rigid Glass Fiber

a) Owens-Corning - Type 703

b) Certainteed – Crimp wrap

c) Knauf – Kwik Flex

d) Manville - Microflex

11. Pump Enclosures - Rigid Glass Fiber

a) Owens-Corning - Type 705

b) Manville - Type 800
DESIGN REQUIREMENTS

c) Certainteed - Certapro

i. 23 09 00 – Building Automation Systems (BAS)

1. Building Automation Systems - Note: BAS selected MUST match existing Building BAS if used in renovation work.
   a) Andover
   b) Siemens Building Technologies

j. 23 21 16 - Hydronic Piping Specialties and Piping Guidelines

1. Manual Air Vents
   a) Bell and Gossett - No. 4V - Preferred Manufacturer
   b) Taco, Inc. - 417
   c) Armstrong Pumps, Inc. - #72

2. Automatic Air Vents
   a) Bell and Gossett - #107 High Capacity Air Vent - Preferred Manufacturer
   b) Taco, Inc. - Hy-vent
   c) Spirax/Sarco - 13WS

3. Diaphragm-type Expansion Tanks
   a) Bell and Gossett – Series B or Series D
   b) Taco, Inc. - CA Series
   c) Armstrong Pumps, Inc. - Series AX

4. Air Separators
   a) Bell and Gossett - Rolairtrol
   b) Taco, Inc. - Air Separator

5. Relief Valves
DESIGN REQUIREMENTS

a) Bell and Gossett
b) Amtrol
c) Armstrong
d) McDonnell and Miller

6. Suction Diffusers
   a) Bell & Gossett
   b) Armstrong

7. Backflow Preventers - Double Check Type
   a) Watts No. 709 - Preferred Manufacturer
   b) Hersey

8. Backflow Preventers - Reduced Pressure Type
   a) Watts 909 - Preferred Manufacturer
   b) Hersey

9. Dielectric Fittings - Union Type
   a) EPCO with Epconite No.1

10. Dielectric Fittings - Nipple Type
    a) ClearFlow
    b) EPCO

11. “Y” Type Strainers
    a) Sarco
    b) Armstrong
    c) Mueller

   k. 23 09 05 - Meters and Gauges
DESIGN REQUIREMENTS

1. Thermometers
   a) Marsh
   b) Trerice - B Series
   c) Weiss
   d) Weksler

2. Pressure Gauges
   a) Ashcroft - Duraguage Series
   b) Marsh
   c) Weiss - PG Series
   d) Weksler - AAT Series
   e) WIKA
   f) U.S. Gauge
   g) Trerice - 500X Series

3. Air Flow Gauges (Magnehelic)
   a) Dwyer

4. Test Plugs (Requires University Approval)
   a) Peterson - Petes Plug
   b) Weksler
   c) Trerice

5. Steam Meter
   a) Emco

6. Chilled Water Meter
   a) Siemens (Controlotron)
DESIGN REQUIREMENTS

I. 23 21 23 - Hydronic Pumps

1. In-Line Circulators:
   a) Armstrong Pumps, Inc.
   b) Bell & Gossett ITT (Series 60 and 80)
   c) Grundfos Pumps Corp.

2. Compact In-Line Circulators
   a) Armstrong Pumps, Inc.
   b) Bell & Gossett ITT
   c) Grundfos Pumps Corp.
   d) PACO Pumps
   e) Taco

3. Vertical In-line Pumps:
   a) Armstrong Pumps, Inc.
   b) Bell & Gossett ITT
   c) Goulds Pumps, Inc.
   d) Grundfos Pumps Corp.
   e) PACO Pumps
   f) Peerless Pump Co.
   g) Taco

4. Flexible-Coupled, End-Suction Pumps:
   a) Goulds Pumps, Inc.
   b) Ingersoll-Dresser Pump Co.
   c) PACO Pumps.
DESIGN REQUIREMENTS

d) Taco

e) Weil Pump Company, Inc.

5. Flexible-Coupled, Double Suction Pumps:

a) Bell & Gossett ITT
b) Goulds Pumps, Inc.
c) Ingersoll-Dresser Pump Co.
d) PACO Pumps.
e) Peerless Pump Co.
f) Taco
g) Fairbanks Morse Pump Corp.

6. Steam Condensate Pump Units:

a) Federal Pump - Preferred Manufacturer
b) Bell & Gossett ITT
c) Roth Pump Company
d) Sarco Pumps

7. Condensate Drainage Pump Units:

a) Hartell Div.; Milton Roy Co.
b) Little Giant Pump Co.
c) Marsh Manufacturing, Inc.

m. 23 22 16 - Steam and Condensate Piping Specialties

1. Steam Traps - Thermostatic

a) Spirax/Sarco TA-125, TH-125 - Preferred Manufacturer

2. Steam Traps - Float and Thermostatic
DESIGN REQUIREMENTS

3. Steam Traps - Inverted Bucket Trap
   a) Spirax/Sarco FT-30 - Preferred Manufacturer

4. Air Vents
   a) Spirax/Sarco B Series - Preferred Manufacturer
   b) Spirax/Sarco 13WS (condensate) - Preferred Manufacturer

5. Vacuum Breakers
   a) Spirax/Sarco VB14 - Preferred Manufacturer

6. Pressure Regulating Valves
   a) Leslie - Preferred Manufacturer
   b) Spence Engineering Co. Type ED

7. Safety Shutoff Valves
   a) Spence
   b) Leslie - Preferred Manufacturer

8. Safety Relief Valves
   a) O.C. Keckley Bronze Series 40
   b) Spence Engineering Bronze Series 41
   c) Spirax/Sarco

9. “Y” Type Strainers
   a) Sarco Type
   b) Armstrong
   c) Mueller

n. 23 31 00 - HVAC Ducts and Casings
DESIGN REQUIREMENTS

1. Flexible Ductwork
   a) Clevaflex
   b) Thermaflex
   c) Flexmaster

2. Volume Dampers - Single Blade (Rectangular)
   a) Air Balance AC-111
   b) Greenheck
   c) Ruskin MD25 - Preferred Manufacturer

3. Volume Dampers - Single Blade (Round)
   a) Air Balance AC-112
   b) Greenheck MBDR50
   c) Ruskin MORS25 - Preferred Manufacturer

4. Volume Dampers - Multiple Blade - Note: Opposed Blade Type ONLY
   a) Air Balance AC-2
   b) Greenheck MBD-15
   c) Ruskin - Preferred Manufacturer

5. Fire Damper - Fusible Link
   a) Air Balance Inc. Series D19
   b) Imperial
   c) Prefco Products Series 5500
   d) Ruskin - Preferred Manufacturer

6. Smoke Damper - Airflow Blade
   a) Air Balance Inc. SA 1
DESIGN REQUIREMENTS

b) Greenheck SD33

c) Ruskin SD60 - Preferred Manufacturer

d) Imperial

7. Combination Fire/Smoke Damper

a) Ruskin FSD60 - Preferred Manufacturer

8. Duct Sealant

a) 3M Fastbond 900

b) Foster 32-14

c) MEI44-52

d) Hardcast Sure Grip 404, Hardcast Iron Grip 601

9. Louvers

a) Ruskin

b) Arrow

c) Air Balance

10. Access Doors in Walls and Ceilings

a) Cesco

b) J L Industries

c) Karp

d) Milcor

11. Filters

a) AAF International

b) Farr Company

c) Flanders Filters, Inc.
DESIGN REQUIREMENTS

   d) Koch Filter Corporation

 o. 23 34 00 - HVAC Fans

1. Cabinet and Ceiling Fans
   a) Cook Gemini Series
   b) Greenheck Model SP, CSP and BCF - Preferred Manufacturer
   c) Penn Zephyr Series

2. Square In-Line Centrifugal
   a) Cook SQI or SQN Series
   b) Greenheck Model SQ or BSQ - Preferred Manufacturer
   c) Penn Centrex Inliner SX

3. Tubular Centrifugal
   a) Greenheck TCS Series - Preferred Manufacturer
   b) Loren Cook

4. Centrifugal Utility Fans
   a) Greenheck
   b) Belted Utility Vent Sets
   c) Loren Cook

5. Belted Utility Vent Sets - Laboratory Exhaust
   a) Loren Cook
   b) Buffalo Air

6. Roof/Wall Exhaust
   a) Cook AC Series
DESIGN REQUIREMENTS

b) Greenheck Models G, GB and C Series - Preferred Manufacturer

c) Penn Domex, Fumex

7. Axial Propeller Wall Fan

a) Cook S Series Wall Ventilators

b) Greenheck SB and S Series - Preferred Manufacturer

c) Penn Breezeway Series

8. Vaneaxial

a) Greenheck VAB Series - Preferred Manufacturer

b) Cook Series VA Series

p. 23 36 00 - Air Terminal Units

1. Air Terminal Units

a) Anemostat

b) Titus

c) Environmental Technologies

d) Krueger

q. 23 37 00 - Air Outlets and Inlets

1. Directional Ceiling Supply Air Diffuser - Type "A"

a) Titus TDC, with AG-65S damper and equalizer grid

b) Krueger Series SH, with 5-11 damper and equalizer grid

c) Anemostat SD, with DOB or DED damper and equalizer grid

2. Fixed Ceiling Supply Air Diffuser - Type "B"

a) Titus TMS, with AG-65 damper and equalizer grid

b) Krueger Series 1400, with R-11 damper and equalizer grid
DESIGN REQUIREMENTS

3. Perforated Ceiling Supply Air Diffuser - Type "C"
   a) Titus PAS, with AG-65 damper and equalizer grid
   b) Krueger Series 1100, with R·11 damper and equalizer grid
   c) Anemostat PR

4. Fixed Ceiling Supply Air Diffuser - Type "D"
   a) Titus TMS, with AG-65 damper and equalizer grid
   b) Krueger Series 1400, with R·11 damper and equalizer grid
   c) Anemostat E, with Columbia University-1 damper and equalizer grid

5. Ceiling Supply Air Linear Diffuser - Type "E"
   a) Titus ML-37, ML-38, or ML-39
   b) Krueger Series 1500·1600
   c) Anemostat AL

6. Sidewall, Sill, Or Floor Supply Linear Air Diffuser - Type "F"
   a) Titus CT -480 or CT -481
   b) Krueger Series 1500·1600
   c) Anemostat AL

7. Fixed Supply Air Register - Type "G"
   a) Titus 300RS with AG-15 damper
   b) Krueger 880V with OBD damper
   c) Anemostat S2VO

8. Perforated Ceiling Return Air Diffuser - Type "H"
   a) Titus PAR
DESIGN REQUIREMENTS

b) Krueger Series 1190

c) Anemostat 3P

9. Ceiling Return Linear Air Diffuser - Type "I"

a) Titus ML-37, ML-38, or ML-39

b) Krueger Series 1900

c) Anemostat SLAD

10. Return, Exhaust, Or Transfer Fixed Air Register – Type “J”

a) Titus 300RS with AG-15 damper

b) Krueger S80H with OBD damper

c) Anemostat S30D

11. Perforated Return, Exhaust, Or Transfer Air Register - Type “K”

a) Titus 8F with AG-35 damper

b) Krueger S80P with OPO damper

12. Laboratory Perforated - Ceiling Supply and Diffuser - Type 0II*

a) Titus Tritic

13. Return, Exhaust, Or Transfer Fixed Air Grille - Type “M”

a) Titus 350RL

b) Krueger S80H

c) Anemostat S3HD

14. Return, Exhaust, Or Transfer Perforated Air Grille - Type "N"

a) Titus 8F

b) Krueger S80P

15. Return, Exhaust, Or Transfer Eggcrate Air Grille - Type "O"
DESIGN REQUIREMENTS

a) Titus 50P
b) Krueger EGC-5
c) Anemostat GC5

16. Filter Return Grille - Type "P"
   a) Titus 4FF
   b) Krueger S80P5FF-1
   c) Anemostat 35HQ

17. Ducted HEPA Filter Supply Terminal - Type "Q"
   a) Flanders Filter Company Model 22.

r. 23 57 00 - Heat Exchangers for HVAC

1. U-Tube Heat Exchangers (Steam to Water)
   a) Bell & Gossett ITT - Type 'SU'
   b) Taco, Inc. - 'Steam to Liquid Heat Exchanger.'

2. U-Tube Heat Exchangers (Water to Water)
   a) Bell & Gossett ITT - Type 'WU'
   b) Taco, Inc. - 'Liquid to Liquid Heat Exchanger.'

3. Plate and Frame Heat Exchangers
   a) Alfa Laval
   b) Tranter
   c) American Vicarb

4. Steam-to-Steam Heat Exchangers (Clean Steam Generators)
   a) Cemline
   b) Patterson-Kelly
DESIGN REQUIREMENTS

s. 23 73 00 - Air Handling Units

1. Modular AHUs
   a) Trane Modular Series
   b) Carrier
   c) York
   d) McQuay - REMOVED

2. Custom AHUs
   a) Buffalo Air - Preferred Manufacturer
   b) Climate Craft

t. 23 82 00 - Convection Heating and Cooling Units

1. Vertical and Ceiling Hung Fan Coil Units
   a) Custom Air
   b) York
   c) International Environmental - Preferred Manufacturer
   d) Trane - REMOVED

2. High Rise Style Fan Coil Units
   a) Williams
   b) Air Therm

3. Fin Tube Radiation
   a) Dunham-Bush, Inc.
   b) Sterling Radiator, Div. of Reed National Corp.
   c) Vulcan Radiator Co.

4. Convectors
DESIGN REQUIREMENTS

5. Unit Heaters
   a) Airtherm Mfg. Co.
   b) Dunham-Bush, Inc.
   c) Sterling Radiator, Div. of Reed National Corp.

6. Cabinet Heaters
   a) Airtherm Mfg. Co.
   b) Dunham-Bush, Inc.
   c) McQuay Inc.
   d) Sterling Radiator, Div. of Reed National Corp.