Date: 11/9/2023
Return Request: 11/19/2023
Project: UCA Snow – Fine Arts Center
Supplier: Comfort Systems USA (Arkansas), Inc.
Manufacturer: MSI
Submittal: Plumbing Identification
Submittal Number: 22 05 53-01
Drawing # and Installation: Plumbing Drawings

ARCHITECT
H+N Architects
1009 Main Street
Conway, AR 72032
501-327-7525

ENGINEER
Pettit & Pettit
201 E. Markham St. #400
Little Rock, AR 72201
501-374-3731

GENERAL CONTRACTOR
Wagner General Contractors
600 W. Race Ave.
Searcy, AR 72143
501-203-0704

MECHANICAL SUBCONTRACTOR
Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

CSUSA PROJECT NO.
23-2020
chowell@comfortar.com

Marking Services Incorporated

Description

MS-970 coiled plastic pipe markers are designed to identify piping in a wide variety of indoor environments. They stay in place on pipes due to the memory of the coiling process and therefore, do not rely on a pressure-sensitive adhesive. No preparation of the pipe surface is required for application, so installation time is reduced compared to conventional stick-on marker systems. Legends are sub-surface printed so they are protected by a layer of plastic.

All MS-970 pipe markers are manufactured using material which has been independently tested and meets the requirements of UL-94 classification V-0 for self-extinguishing materials.

Complies with ASME A13.1 standard for pipe identification with regard to color, letter height and marker size. Custom color combinations are also available.

Physical and Chemical Characteristics

Base Material for MS-970:	20 mil .020" (0.508 mm) vinyl service
Service Temperature:	+40°F through 160°F (4° C thru 71°C)
Water Resistance:	Excellent
Chemical Resistance:	Alkalis; Mildew: Good
Outdoor Durability:	Recommended indoor use only
Mounting:	Coiling holds tight to pipe. Larger coils have sealing strip. Oversized coils have nylon strapping
Finish:	Gloss surface
Text Height:	Various. Sized to meet ASME A13.1

Marker Sizes and Letter Heights

Pipe Diameter	Style Marker	Marker Width	Character Height	Marker Type
1/4" – 3/8"	TM	3"	1/4"	COIL-ON
1/2" – 1"	A	8"	1/2"	COIL-ON
1-1/8" – 2-1/4"	B	8"	3/4"	COIL-ON
2-3/8" – 3-1/4"	C	12"	1-1/4"	COIL-ON
3-3/8" – 4-1/2"	D	12"	1-1/4"	COIL-ON
4-5/8" – 5-7/8"	E	12"	1-1/4"	COIL-ON
6" – 7-7/8"	FC	12"	1-1/4"	COIL-ON
6" – 7-7/8"	F	12"	1-1/4"	STRAP-ON
8" – 10"	G	24"	2-1/2"	STRAP-ON
Over 10"	H	32"	3-1/2"	STRAP-ON

*Pipe outside diameter including insulation

Designation of Colors (ASME A13.1-2015 & ANSI Z535-2017)

Designation of Colors — ASME A13.1-2015 & ANSI Z535-2017 Standards		
Classification	Color Scheme	
Defined Applications		
Fire quenching liquids	White text on red	Sample
Toxic and corrosive fluids	Black text on orange	Sample
Flammable fluids	Black text on yellow	Sample
Combustible fluids	White text on brown	Sample
Potable, cooling, boiler feed and other water	White text on green	Sample
Compressed air	White text on blue	Sample
Undefined Applications		
Defined by user	White text on purple	Sample
Defined by user	Black text on white	Sample
Defined by user	White text on gray	Sample
Defined by user	White text on black	Sample

Designation of Colors (ANSI/ASME A13.1-1996)

Designation of Colors — ANSI/ASME A13.1-1996 Standards		
Classification	Color Scheme	
Materials Inherently Hazardous		
Flammable or Explosive, Chemically Active or Toxic, Extreme Temperature or Pressures, Radioactive	Black text on yellow	Sample
Materials Inherently Low Hazard		
Liquid or Liquid Admixture (non-hazardous materials)	White text on green	Sample
Gas or Gaseous Admixture (non-hazardous materials)	White text on blue	Sample
Fire Quenching Materials		
Water, Foam, CO2, Halon, etc.	White text on red	Sample

Description

MS-264 tags are ideal for marking electrical equipment and control panels. Engraved information clearly shows against the background color. Letter size will be adjusted to fit available space or specification requirement. Standard tag construction is 2 ply 1/16" thick.

Although MS-264 is not a thermoset plastic (phenolic) as designated by ASTM-D709 it is a fire-retardant polymer specifically designed as a safer, formaldehyde and phenol free, alternative to phenolic. MS-264 is non-flammable, UL 94 VO rated, electrically non-conductive, and insulative. Tags are also RoHS compliant, halogen free and PVC free.

Physical and Chemical Characteristics

Standard Material:	2-ply (two laminated layers of engraving plastic)
Optional Material:	3-ply (three laminated layers of engraving plastic)
Standard Thickness:	1/16" (1.6 mm)
Optional Thickness:	1/8" (3.2 mm)
Service Temperature:	-20°F through 175°F (-29°C through 79°C)
Outdoor Durability:	Indoor use only
Finish:	Matte finish with beveled edges
Mounting:	Adhesive backing and/or holes: 3/16" (4.8 mm) default diameter)
Standard Colors: (Non-standard colors available upon request)	☐ BLACK (WHITE text) ☐ GREEN (WHITE text) ☐ RED (WHITE text) ☐ BLUE (WHITE text) ☐ WHITE (BLACK text) ☐ YELLOW (BLACK text) ☐ ORANGE (BLACK text)
Text Height:	Sized to fit within tag boundary or comply with specified height

Information on physical and chemical characteristics is based on tests we believe to be reliable. The values are intended only as a source of information and are given without guarantee and do not constitute a warranty. Purchasers should independently determine, prior to use, the suitability of this material for their specific application.

ENGRAVED PLASTIC TAGS

Technical Data

Description

Equipment and Valve identification tags are engraved in standard 1/16" or optional 1/8" non-glare finish. Mounting holes or adhesive backing is available. Standard material is 2-ply with 3-ply available.

Engraved information clearly shows against background. Letter size will be adjusted to fit available space or specification requirements. Several stock colors are available with other colors available upon request.

Engraved Plastic tags are non-conductive, insulative, RoHS compliant, halogen free and PVC free.

Physical and Chemical Characteristics

Base Material for Engraved Plastic:	Micro-surface Impact Acrylic
Total Thickness:	Standard: 1/16" (1.6 mm); Also available: 1/8" (3.2 mm)
Service Temperature:	-20°F through 175°F (-29°C through 80°C)
Water Resistance:	Excellent
Outdoor Durability:	5 years minimum
UV Resistance:	Excellent; UV stable; resists yellowing and hazing
Storage Stability:	5 years minimum
Chemical Resistance: (Intermittent Surface Contact)	Water Excellent; 10% Caustic Excellent; Methanol Excellent; 38% Hydrochloric Acid Excellent; Fuel Oil Excellent; 5% Acetic Acid Excellent
Finish:	Non-glare finish with beveled edges (parallel edges available)
Mounting:	Adhesive back, holes, other mounting options
Standard Colors: (Non-standard colors available upon request)	☐ BLACK (WHITE text) ☐ BROWN (WHITE text) ☐ GREEN (WHITE text) ☐ WHITE (BLACK text) ☐ RED (WHITE text) ☐ YELLOW (BLACK text) ☐ BLUE (WHITE text) ☐ ORANGE (WHITE text)
Typical Sizes (H x W):	☐ 1.5" (38 mm) diameter ☐ 2" (51 mm) diameter ☐ 1.5" x 1.5" (38 x 38 mm) ☐ 2" x 2" (51 x 51 mm) ☐ 1" x 3" (25 x 76 mm) ☐ 2" x 3" (51 x 76 mm) ☐ 2" x 4" (51 x 102 mm) ☐ 3" x 6" (76 x 152 mm) ☐ 4" x 8" (102 x 203 mm) ☐ Other (specify: H x W)
Text Height:	Sized to fit within tag boundary or comply with specified height

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Updated on 2/13/2020

Description

Brass valve tags are available as 1-1/2" or 2" diameter round or square with one 3/16" hole. Laser engraved tags have high contrast text making it easy to read. Due to the chemical reaction during the engraving process, the text becomes part of the tag and will not flake off or fade. Other sizes and shapes are available upon request. These tags are available with or without hole(s). Hole location and size must be specified.

A variety of fasteners are available including Brass "S" hooks, #16 jack chain, and brass bead chain. Other attachment methods are available upon request.

Physical and Chemical Characteristics

Standard Material:	Brass
Standard Thickness:	20 Gauge (0.032"/0.812 mm thick)
Optional Thickness:	Available upon request
Service Temperature:	-40°F through 500°F (-40°C through 260°C)
Standard Colors:	High contrast text on Brass background
Non-standard Colors:	n/a
Mounting:	Adhesive backing and/or holes; Ø3/16" (Ø4,8 mm) default diameter
Finish:	Standard finish, brushed finish available
Text Height:	1/4" service indicator on top line
Available Characters:	1/8" Text , # / \ " - . ' ° ( ) A thru Z – all upper case & 0 thru 9 1/4" Text , # / \ " - . ' & ° A thru Z – all upper case & 0 thru 9 1/2" Numbers 0 thru 9
Typical Sizes:	☐ 1" x 3" (25 x 76 mm) ☐ 2" x 4" (51 x 102 mm) ☐ 1.5" (38 mm) diameter ☐ 2" x 6" (51 x 152 mm) ☐ 1.5" x 1.5" (38 x 38 mm) ☐ 4" x 6" (102 x 152 mm) ☐ 2" (51 mm) diameter ☐ Other (specify: H x W) ☐ 2" x 2" (51 x 51 mm)

Revised on 10/14/2019

BRASS BEAD CHAIN

Description

Our #6 Solid Brass Bead Chain is supplied 100 pieces per box. It is a flexible solid brass chain and provided in 4.5" (114 mm) lengths with a locking link on the end of the chain. The diameter of the chain is 1/8" with a tensile strength of 20 lbs. and approximately 70 balls per foot.

The chain is ideal for use in non-caustic environments and can be linked together to accommodate large valves.

MSI Part Number: 15765

Created on 6/17/2010
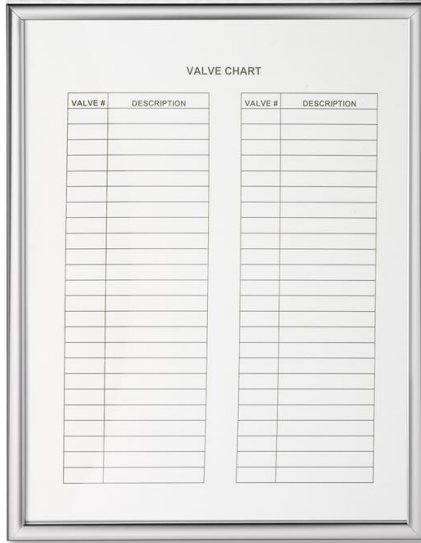
Description

Valve Chart Frame is designed to hold 8-1/2" x 11" (216 mm x 279 mm) valve charts. Plastic lens included. Glass lens is available upon request. Glass lens is glazing quality B, Class 1, Type I, ASTM C 1036, 2.5 mm single thickness. Frames are natural finish anodized extruded aluminum. Wall mountable.

MSI Part Number: 15790

Revised on 10/23/2019

CEILING TACKS

Technical Data

Description

Standard .875" diameter domed head ceiling tacks are ideal for marking the location of valves, dampers, booster coils and controllers above acoustical ceiling tiles. Tacks are steel with baked enamel coating. Simply push tack into ceiling tile or insulation near closest access point.

Available Stock Colors

- Orange
- Black
- Green
- Red
- Blue
- White
- Yellow

*Additional colors available upon request.

Updated on 8/6/2020

MS-900 SELF-ADHESIVE CEILING MARKERS

Technical Data
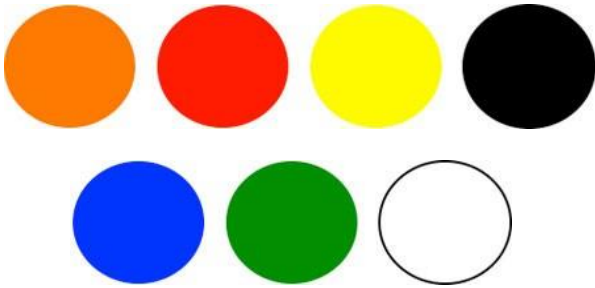
Description

MS-900 Self-Adhesive Ceiling Markers are ideal for marking the location of valves, dampers, booster coils and controllers above acoustical ceiling tiles.

Physical and Chemical Characteristics

Film:	.0032" (0.0812 mm) thick material
Adhesive:	Permanent pressure-sensitive acrylic
Service Temperature:	-50°F to +180°F (-45°C to 82°C)
Application Temperature:	+50°F (10°C)
Water Resistance:	Excellent
Chemical Resistance:	Resistant to mild acids, alkalis and salts
Expected Outdoor Durability:	Five years when properly applied
Storage Durability:	Two years when stored at +73°F (22°C) and 50% relative humidity
Available Sizes:	☐ 3/4" (19 mm) ☐ 7/8" (22.22 mm)
Available Stock Colors: **(Additional colors available upon request)**	☐ Orange ☐ Red ☐ Yellow ☐ Black ☐ Blue ☐ Green ☐ White

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Revised on 10/22/2019