

DESCRIPTION

ITW Insulation Systems Aluminum Elbow Covers are made in two precision formed matching halves to cover and weatherproof insulated 45° and 90° pipe elbows. These elbow covers are also known under the ITW Pabco and Childers brand names as Sure-Fit and Ell-Jacs, respectively.

Like ITW Aluminum Jacketing, Aluminum Elbow Covers are a premier protective outer surface for mechanical insulation systems on pipe and are an excellent performing and critical accessory to compliment the aluminum jacketing. ITW Aluminum Elbow Covers protect the insulation and underlying pipe/tank from physical damage, UV exposure, corrosive atmospheres, and water and reduce the labor necessary to install the metal jacketing system.

The ITW standard Aluminum Elbow Covers have a gold colored acrylic or polyester painted moisture barrier on the interior surface to help reduce interior surface corrosion. They also have a factory applied and baked on finish of highly durable hard film clear acrylic or polyester paint on the exterior surface to help resist external corrosion and to raise the emittance.

The special paints used on the interior and exterior of ITW Aluminum Elbow Covers are chalk and fade resistant. They exhibit better resistance to oxidation and to the effects of various corrosive environments than bare aluminum jacketing. This painted surface also resists water and fingerprint staining.

COMPOSITION

ITW Aluminum Elbow Covers are made from the commercially pure (>99% aluminum) and highly corrosion resistant 1100 aluminum alloy.

The performance of even commercially pure aluminum can be improved by alloying with small percentages of one or more other elements such as silicon, iron, copper, manganese, and zinc. ITW Insulation Systems carefully screens all potential aluminum coil suppliers to assure our products have the highest quality, are corrosion resistant, and comply with all relevant standards.

Composition of Aluminum 1100 Alloy (max %)

Alloy	Si + Fe	Cu	Mn	Zn
1100	0.95	0.05-0.20	0.05	0.1



SIZE SELECTION AND INSTALLATION

For details on ITW Aluminum Elbow Cover sizes, their fit on insulation, and installation, see the ITW data sheet on Aluminum Elbow Sizes and Installation.

FIT

ITW Aluminum Elbow Covers are available to fit:

- 45° and 90° pipe elbows
- Long or short radius pipe elbows
- Butt weld, socket weld, and screwed elbows
- Insulated pipe from 1/2" to 12" NPS*

*ITW Aluminum Elbow Covers are available for some insulation thicknesses at NPS > 12". Not all combinations of NPS, insulation thickness, radius, and elbow angle are available. See your ITW sales representative for details.

THICKNESS

ITW Aluminum Elbow Covers are 0.024" in thickness to allow the elbows to be formed in the press.

RECOMMENDED USES

ITW Aluminum Elbow Covers are recommended for use anywhere aluminum jacketing is used on the associated straight sections of pipe.

LIMITATIONS ON USE

ITW Aluminum Elbow Covers are not appropriate for the following applications:

- For applications where a maximum resistance to fire is required, stainless steel elbow covers should be used
- Where maximum resistance to corrosion is required, ITW stainless steel elbow covers should be used.

MOISTURE BARRIER

ITW Aluminum Elbow Covers have a painted moisture barrier on the interior surface. When coupled with the ultrapure 1100 alloy used in these elbows, this moisture barrier helps to prevent pitting/crevice and galvanic corrosion of the interior surface of the elbow cover and the underlying pipe.

EMITTANCE OF ALUMINUM ELBOWS

ITW Aluminum Elbow Covers have an outer surface emittance as measured by ASTM C1371 and specified by ASTM C1729 of:

- Standard clear coated = 0.5
- White painted = 0.8
- Bare aluminum (oxidized in service) for comparison = 0.1

FLAMMABILITY

ITW Aluminum Jacketing with a 3 mil polysurlyn moisture barrier has been tested for flammability using the industry standard ASTM E84 test method. The results are shown below. ITW would expect Aluminum Elbow Covers to have flammability performance as good as or better than our aluminum jacketing since the elbows have no organic film present.

ASTM E84 Flame Spread Index = 0
ASTM E84 Smoke Developed Index = 5

(Tested with exterior metal surface exposed to the flame)

SURFACE FINISHES

Due to the pressing process during elbow formation, ITW Aluminum Elbow Covers have a smooth (mill) finish.

COMPLIANCE TO STANDARDS

All Aluminum Elbow Covers from ITW Insulation Systems comply with the applicable requirements of ASTM C1729 (Aluminum Jacketing Material Standard), Type III, Grade 3, Class D, which includes the strength and chemical composition requirements for compliance to ASTM B209 (Aluminum Alloy Standard).

EXTERIOR COLORS

The standard exterior color for ITW Aluminum Elbow Covers is a clear paint which reveals the natural aluminum color. ITW Aluminum Elbow Covers are also available via special order with a white or gray painted exterior surface to match the colors of our standard painted aluminum jacketing or other colors.

SEALING OF JOINTS

For best insulation system performance and resistance to water infiltration, ITW recommends that all joints in Aluminum Elbow Covers be sealed with an appropriate joint sealant. This should be applied between the overlapping pieces of metal in the joint and not as a caulking bead on the exterior lip of the joint.

