

## DESCRIPTION

ITW Insulation Systems Box Rib Sheets are made with 1 inch high ribs on 4 inch centers which is traditionally referred to as a 4 x 1 box rib pattern. This pattern is engineered to provide high strength and stiffness. The specific dimensions of the rib pattern are shown in the diagram to the right.

Like all ITW Jacketing, Box Rib Sheets are a premier protective outer surface for mechanical insulation systems on flat surfaces and large cylindrical vessels. ITW Box Rib Sheets protect the insulation and underlying surface from physical damage, UV exposure, corrosive atmospheres, and water.

## COMPOSITION

ITW Box Rib Sheets come standard in 3004-7072 Alclad aluminum. This is a type of aluminum produced by metallurgically bonding 7072 aluminum alloy to both surfaces of a 3004 aluminum alloy core. The resulting sheet provides superior corrosion resistance and strength.

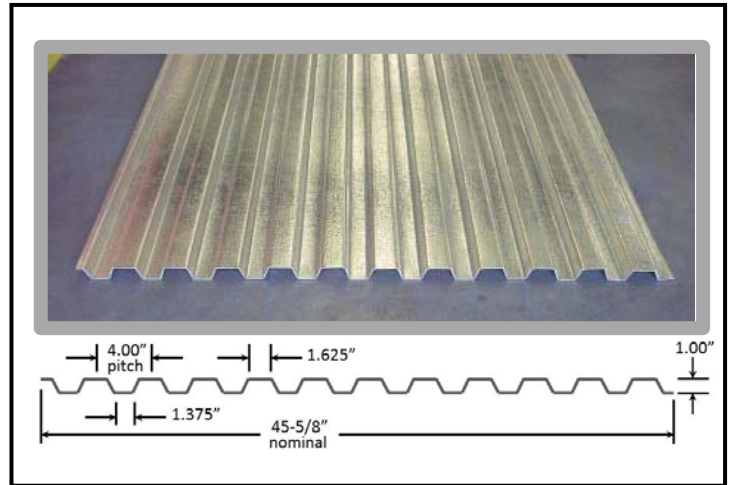
Stainless steel and non-clad aluminum (alloy 3105 or 3004) can be specified by purchaser at time of order placement but this may affect minimum quantity and lead-time.

## COMPLIANCE TO STANDARDS

ITW Alclad Aluminum Box Rib Sheet complies with the applicable requirements of ASTM C1729 (Aluminum Jacketing Material Standard), Type I, Grade 5, Class E, which includes the strength and chemical composition requirements for compliance to ASTM B209 (Aluminum Alloy Standard).

## THICKNESS

ITW Aluminum Box Rib Sheets are available in standard thickness of 0.032 and 0.040 inches. For maximum strength a thickness of 0.050 inches can be specified by purchaser at time of order placement but this may affect minimum quantity and lead-time.



## DIMENSIONS

ITW Box Rib Sheets come in standard dimensions of:

- Width = nominal 45-5/8 inch<sup>1,3</sup>
- Coverage = nominal 44 inch<sup>2</sup>
- Length = 8, 10, and 12 feet<sup>3</sup>

<sup>1</sup>The actual width will vary slightly from the nominal width based on gauge and other manufacturing variables.

<sup>2</sup>Coverage is the effective horizontal distance covered by each sheet and is less than the sheet width because of the need to overlap neighboring sheets by one rib.

<sup>3</sup>Custom lengths and nominal widths of 38-1/2 and 27-1/2 inches can be specified by purchaser at time of order placement but this may affect minimum quantity and lead-time.

## SURFACE FINISH

ITW Box Rib Sheets have a stucco embossed finish. This finish has the best appearance on the large flat or nearly flat surfaces on which ITW Box Rib Sheet is used. Smooth finish is not used for ITW Box Rib Sheets because it exhibits an unacceptable level of scratches caused by forming.

## RECOMMENDED USES

ITW Aluminum Box Rib Sheets are recommended for use over the insulation on large flat surfaces and large vertical cylindrical tanks. Examples of where ITW Box Rib Sheets are the preferred jacketing are boiler walls, precipitators, breechings, and large ductwork.

## **LIMITATIONS ON USE**

ITW Aluminum Box Rib Sheets are not appropriate for the following applications:

- For large flat surfaces and cylindrical tank applications where a maximum resistance to fire is required, ITW stainless steel box rib sheets should be used
- For large flat surfaces and cylindrical tank applications where maximum resistance to corrosion is required, ITW stainless steel box rib sheets should be used
- For intermediate size vertical cylindrical tanks that are greater than 8 ft in diameter but not large enough to require box rib, ITW Aluminum Deep Corrugated Sheets should be used

## **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 Box Rib Sheet to have flammability performance as good as or better than our aluminum jacketing since there is no organic moisture barrier film present.

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

(Tested with exterior metal surface exposed to the flame)

## **MOISTURE BARRIER**

ITW Box Rib Sheets do not have a moisture barrier on their interior surface since this is not necessary in the applications on which this product is used.

## **EMITTANCE OF BOX RIB SHEETS**

ITW Aluminum Box Rib Sheets have a surface emittance per ASTM C1371 and specified by ASTM C1729 of:

- Bare aluminum (oxidized in service ) = 0.1

## **SEALING OF JOINTS**

Joints between ITW Box Rib Sheets are not typically sealed. However, ITW Box Rib Sheets should be overlapped at the horizontal joints between vertically adjacent pieces so that the joint opening points downward to naturally shed water.

In some cases, rubber closure strips are used at the horizontal joints between box rib sheets. This is most commonly done where vertically adjacent pieces of box rib sheet change angles.

## **ACCESSORY MATERIALS**

Flashing flat sheets are available in 3004-7072 Alclad aluminum and standard non-clad aluminum alloy 3105 or 3004 in 0.032, 0.040, and 0.050 inch thickness.