

# Insulation of Equipments

## Piping

Insulation Type: Field and Factory-applied Non-metal Jacketing

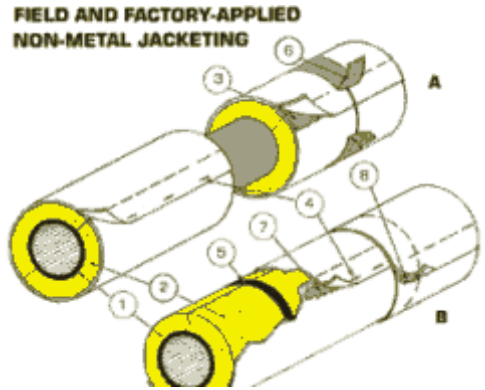
Non-metal jacketing can be of the plastic, laminated foil-scrim-kraft treated paper, or fabric types. Factory-applied jacketing provides a longitudinal overlap (often self-adhering) for sealing purposes. Field-applied jacketing must be measured and cut to provide proper overlapping at longitudinal and circumferential joints.

**Detail A** - Factory-applied jacketing (hot and cold applications)

**Detail B** - Field-applied jacketing.

**Materials:** Jacketing material, adhesives, staples, tape, wire or bands.

1. Pipe.
2. Insulation.
3. Longitudinal lap on factory-applied jacket (self-adhering or secured with adhesive.)
4. Longitudinal lap on factory or field-applied jacket secured with staples (Staples are coated with vapor-retarder mastic on cold applications.)
5. Wire, tape or bands securing insulation in place before the jacket is applied.
6. Circumferential butt strip, self-adhering, applied adhesive or stapled.
7. Longitudinal overlap on field-applied jacketing is adhered with appropriate adhesive or staple.
8. Butt joint overlap sealed (Tape at overlap joints is optional on cold applications.)



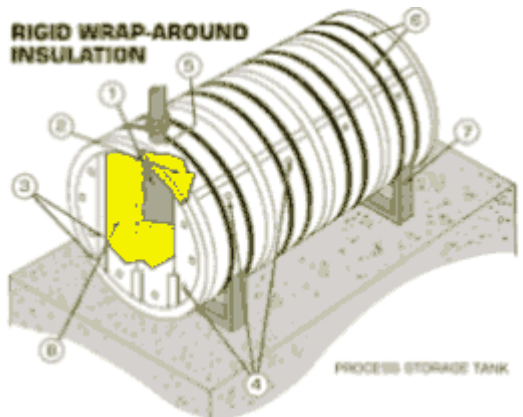
## Vessels, Tanks and Equipments

**Insulation Type:** Rigid Wrap-around Insulation

Vessels and tanks having outside diameters of over 750 mm (30") may be insulated using rigid wrap-around type insulation. Rigid wrap-around insulation can be fabricated by adhering insulation segments of glass fiber, cellular glass, urethanes, etc. to a facing, or it can be purchased prefabricated. Cold applications require vapor-retarder sealing at penetrations and/or mechanical fasteners.

**Materials:** Rigid wrap-around fiber insulation, weather barrier tape, bands, cupped head pins, outward clinching staples and caulking.

1. Vessel wall.
2. Rigid wrap-around fiber insulation with weather-barrier facing.
3. Facing tape secured with adhesive and/or staples.
4. Mechanical fasteners as required on vertical span and along vessel bottom. (Tape patches or vapor-retarder sealing are necessary on cold outdoor applications.)
5. Caulking or flashing as required.
6. Banding. Specify type, size & centers.
7. Vessel supports and legs.
8. Rigid board insulation on flat ends.



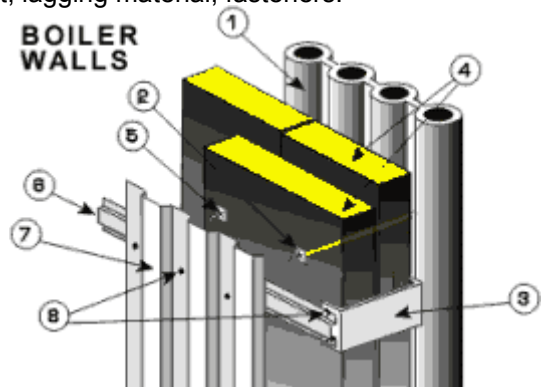
## Vessels, Tanks and Equipments

**Insulation Type:** Boiler Walls

There are many types of boilers and designs. This is a tube type boiler commonly used in the power industry.

**Materials:** Insulation, weld pins, stand-offs, washers, subgirt, lagging material, fasteners.

1. Boiler side shell tubes.
2. Weld pin attached to boiler shell in tube membrane.
3. Stand-off welded to boiler tube membrane.
4. Double layer insulation, staggered joints.
5. Washer.
6. Subgirt attached to stand off.
7. Lagging material fastened to subgirt.
8. Fasteners for subgirt and lagging material.



**Reference:**

[http://www.insulation.org/techs/standardsmanual\\_plates.cfm](http://www.insulation.org/techs/standardsmanual_plates.cfm)