SHALL BE MASTIC COMPLETELY SEALING THE EXPOSED END OF THE INSULATION. MASTIC MOISTURE BARRIERS SHALL BE FACTORY-APPLIED TO EACH PIPE END. END SEALS MOISTURE BARRIER 5 FOOT WATER HEAD TEST 16-GAUGE WALL THICKNESS. JACKET SHALL BE WATERTIGHT AND BE ABLE TO WITHSTAND TEMPERATURE RATING IS -40°F TO 240°F. A SPECIAL ALUMINUM CLASS 5052-H32 MARINE GRADE ALUMINUM METAL WITH 20' OR 40' LENGTHS AVAILABLE. ALL CARBON STEEL PIPE SHALL BE ASTM A-53, GRADE B. SEAMLESS PIPE SMALLER THAN 2" SHALL BE ASTM A-106, OR A53, GRADE B. STEEL PIPE SCH 40 AND SCH 80 PIPE AVAILABLE. 20" OR 40" LENGTHS AVAILABLE. 6"X6" CUTBACKS FOR ¾"-12" CORE. 2LB TO 4 LB DENSITY RIGID CFC FREE POLYURETHANE FOAM. INSULATED PIPE WITH HEAT TRACE CHANNEL ON REQUEST. PIPE ENDS ARE SEALED WITH BUTYL MASTIC (TIONS OIL). 16GA ALUMINUM JACKET IS STANDARD. JACKET ID USED IS + -½" AVERAGE. FIELD JOINT CLOSURES ALL JOINTS SHALL BE FIELD-INSULATED PER THE MANUFACTURER’S RECOMMENDATION, USING A TWO-PART FOAM INJECTION METHOD OR A PRE-FORMED HALF SHELL WITH A FULL-LENGTH ALUMINUM BAND. GENERAL PREINSULATED STEEL PIPING SYSTEMS SUITABLE FOR CHILLED WATER, HEATING WATER, DOMESTIC HOT & COLD WATER, PROCESS FLUIDS, LOW PRESSURE STEAM (15 PSIG MAX.), CONDENSATE RETURN AND CRYOGENIC SERVICES. SERVICE PIPE CARRIER PIPE SHALL BE STEEL ASTM A-53, GRADE B, ERW (TYPE E) OR SEAMLESS (TYPE S), STANDARD WEIGHT FOR SIZES 2" AND LARGER, AND SHALL BE ASTM A-120/A-53, GRADE F (TYPE F), STANDARD WEIGHT FOR SIZES 1-1/2" AND SMALLER. SEAMLESS PIPE SMALLER THAN 2" SHALL BE ASTM A-106, OR A93, GRADE B. CONDENSATE RETURN PIPING SHALL BE SCHEDULE 80. WHEN PRACTICAL, PIPING SHALL BE PROVIDED IN 40-FOOT DOUBLE-RANDOM LENGTHS. ALL CARBON STEEL PIPE SHALL HAVE ENDS CUT SQUARE AND BEVELED FOR BUTT-WELDING. STRAIGHT SECTIONS OF FACTORY INSULATED PIPE SHALL HAVE 6" OF EXPOSED PIPE AT EACH END FOR FIELD JOINT FABRICATION. INSULATION INSULATION SHALL BE RIGID, 90 TO 95% CLOSED CELL POLYURETHANE WITH 2.0 TO 4.0 POUNDS PER CUBIC FOOT DENSITY AND A “K” FACTOR OF 14 AT 75°F PER ASTM C 518. THE POLYURETHANE FOAM SHALL BE CFC-FREE AND COMPLY WITH HH-I-1751/4. THE POLYURETHANE FOAM SHALL BE INJECTED INTO THE ANNULAR SPACE WITH HIGH-PRESSURE FOAM EQUIPMENT. CENTERING SPACERS SHALL BE FACTORY-INSTALLED TO ENSURE UNIFORM INSULATION AROUND THE PIPE. INSULATION THICKNESS SHALL BE AS SHOWN ON THE TABLE IN THE CONTRACT DRAWINGS, BUT NOT LESS THAN 1.3". MAXIMUM TEMPERATURE RATING IS -40°F TO 240°F. JACKET A SPECIAL ALUMINUM CLASS 5052-H32 MARINE GRADE ALUMINUM METAL WITH 16-GAUGE WALL THICKNESS. JACKET SHALL BE WATERTIGHT AND BE ABLE TO WITHSTAND 5 FOOT WATER HEAD TEST. MOISTURE BARRIER MASTIC MOISTURE BARRIERS SHALL BE FACTORY-APPLIED TO EACH PIPE END. END SEALS SHALL BE MASTIC COMPLETELY SEALING THE EXPOSED END OF THE INSULATION.