

Pipe Isometric Material Takeoff Module

ASME B31.3 & B31.1 Process Piping · Powered by 30 Years of Steel Fabrication Expertise

1 Dual Input Capability

Processes both scanned/digital PDF pipe isometric drawings AND plain text RFQ descriptions in a single agent — automatically detecting which input type it receives.

2 ASME B31.3 & B31.1 Intelligence Built In

Three approved knowledge bases encode fluid service categories, NDE requirements, material specifications (A53 through P91), and the critical STD vs SCH 40 wall thickness distinction across NPS 1/2" to 48".

3 Auto-Generated Bolting & Gaskets

Derives complete bolting quantities (stud count, diameter, and length) and gasket types from flange count, size, and pressure class — with automatic material switching for low temperature, stainless, and flat face applications.

4 Dual Surface Area Calculation

Separates rubber lining SA (pipe ID bore + flange process face) from paint/coating SA (pipe OD exterior + flange back face) — two distinct outputs for two distinct subcontract scopes.

5 Rubber Lining Scope & Extraction

Extracts rubber lining specifications from drawings — polymer type, durometer and lining thickness — and calculates rubber lining surface area for subcontract pricing. Customer-supplied specs accepted as manual input when not shown on drawings.

6 Spool-First Organization

All MTO output organized by spool number with field weld boundaries, matching how fabrication shops actually build and track work in the field.

7 Smart Flagging System

18 mandatory flag conditions including dimension unit ambiguity (inches vs feet), spec breaks, single-flange bolt responsibility, Category M fluid service, alloy materials, and scanned drawing quality issues.

8 Customer Pipe Class Integration

Accepts customer pipe specification documents as a second PDF input — allowing the agent to cross-reference line tags against project-specific pipe classes rather than relying solely on drawing callouts.

9 Professional PDF & Excel Output

Branded MineFab AI reports with SOW confirmation table, spool-by-spool MTO, auto-generated bolting and gasket tables, weld summary, weight estimates, flags, and approval block — plus a structured Excel MTO workbook.

30 Years

Fabrication
Expertise

3

Approved
Knowledge Bases

18

Mandatory
Flag Conditions

NPS 1/2"-48"

Full Pipe
Size Range

B31.3

ASME Code
Compliant