



LENGTH NESTING

Maximize Yield · Minimize Drop · Optimize Before You Cut

Feature Overview · June 2026

FFD

FIRST FIT
DECREASING ALGO

4

IMPACT
DELTA CARDS

Nest

SAW-FLOOR
ORGANIZATION

RFQ

MATERIAL EXPORT
READY

PDF+Excel

OUTPUT
FORMATS

AGENT CAPABILITIES

First Fit Decreasing Optimization

Runs a First Fit Decreasing algorithm across all member sizes and quantities in the MTO — determining which members come from the same stock length to minimize offcut drop before a single piece is cut.

Four Impact Delta Cards

Before and after comparison in four cards: Stock Lengths Required, Total Material Weight, Material Yield %, and Drop Weight — with green/red directional coloring showing exactly what the optimization saves.

Apply Recommended Nesting — One Click

Review the optimized nest, then apply with one click. The second row of delta cards immediately shows the change in lengths, weight, yield, and drop — all updated live before any output is generated.

Saw Setup Summary — Nest # Rollup

Generates a Saw Setup Summary table organized by Nest # for the shop floor. Adjacent-collapse notation groups repeat patterns so the saw operator can run the entire schedule without re-measuring.

Full Visual Cut Layout

Visual bar layout showing every member within each nest, to scale — colour-coded by member mark. Shop floor working document showing the saw operator exactly what comes off each stick of material.

Detailed Cut Table per Nest

Complete cut list per Nest # with mark, quantity, cut length, and cumulative running total — the working document that travels with the saw setup summary to the shop floor.

Material RFQ Export

Converts the optimized nest into a procurement-ready RFQ: stock lengths required, quantities, section type, grade, and total weight per length — formatted for direct submission to your material supplier.

MTO-Driven — No Re-Entry Required

Length Nesting pulls directly from the structural MTO output — no re-keying of member lists. Process MTO, review output, trigger nesting. The full workflow runs without leaving the MineFab platform.

Professional PDF & Excel Output

MineFab-branded PDF with Saw Setup Summary, full visual layouts, and detailed cut tables per nest — plus a matching Excel workbook with the optimized cut schedule and RFQ ready for supplier submission.

OUTPUT DELIVERABLES

- Saw Setup Summary (Nest # Rollup)
- Visual Cut Layout PDF
- Detailed Cut Table per Nest
- Material RFQ Excel
- Delta Card Summary (4-Card)
- Optimized Cut Schedule Excel
- Stock Length Buy List
- Approval Sign-Off Block

APPLICABLE STANDARDS

- AISC SCM
- AISC KB1 Rev4
- MTO-Driven Input
- Shop Standard Cut Lengths
- ASTM A36
- ASTM A572
- ASTM A500
- Project BOM