

Rib Support Recommendation Tool V1.00 (RSR) Manual

Installation Instruction

If MATLAB is already installed on your computer, you can directly use the “Exe_file_only” file to run the RSR tool. If you don't have MATLAB or the MATLAB runtime installed on your computer, use the “**RSRV1.001_web_Installer**” to install both MATLAB runtime and the RSR tool on your computer. Note that an internet connection is required to download MATLAB runtime.

How to use the RSR tool

This section provides stepwise instructions for using the tool, discussing each step in detail. Figure 1 shows the tool's main interface, including the input data panel, and suggestion output.

Rib No	Rib Member	Thickness, ft	UCS, psi	Interface Rating
1	Rock	1.75	5000	Strong
2	Coal	1	2700	Weak
3	Coal	2	2700	Strong
4	Rock	1.25	5000	

Overburden Depth (ft) 1050
No. of Rib Units 4
Mining Height 6 ft

Coal Pillar Rib Rating 61
Unsupported Rib FOS 1.24
Bolt Recommendations
Bolt Type Fully-grouted or Mechanical bolt
No. of Bolts 1
Bolt Length (ft) 4
Spacing (ft) 6

Disclaimer of Liability Clause: This tool is for external review only, it is not to be used for rib support design or any purpose other than user experience evaluation

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Figure 1. The interface of the developed RSR tool

Rib Number 1
Rib Member Coal UCS 0 psi
Thickness 0 ft

Add Decline

Figure 2. Rib data entering form

Step 1: The user must provide initial information for the survey data. This can be done by manually entering, editing, or deleting data through the "Add Data, Edit Data, Delete Data" buttons. The form for entering rib data is illustrated in Figure 2. The data entered will be displayed in the table, as depicted in Figure 1.

Step 2: The user must enter the Overburden depth in the main dialog and then click the "Calculate" button to receive support recommendations. The rib support recommendations will be provided in the "Rib Support Recommendation" panel at the bottom of the tool.

Step 3: The user can export the results to a PDF by clicking the export button in the top left-hand corner.