

Bill of Materials Tool

Introduction:

The purpose of this tutorial is to get you started with using the Bill of Materials Tool. It introduces you to some of the key features of the tool, but really only scratches the surface of what the tool is capable of.

Project overview:

Create a model similar to the one shown below:



The model consists of a two-story frame with 6" concrete ($f'c = 4$ ksi) plate elements for the floors.

(Note: The Generate Standard menu item works really well when creating such a structure.) For simplicity, make the stories 10 ft high and the bays 10 ft wide. The columns should be W 14x43 shapes and the beams W 16x26's.

If you need help creating the model please consult the VisualAnalysis User's Guide (**Help | Contents**).

Using the Tool

Editing Prices:

Once you have the model set up, select the **Report | Bill of Materials** menu item. Select the Edit material/member pricing information radio button and **click** Next. You are brought to the Bill of Materials Edit dialog where you can edit the pricing information for the different items. For the W 14x43 enter a cost of 1.5. For the W 16x26 enter 1.25. These prices are in dollars per pound. Now move on to the concrete. Check the "Use Default Price" box. Change the default price to 0.1. This price is in dollars per pound. Note that the 6" plate price is updated to reflect this change. **Click** Next to move on.

Generating the Report:

We will want to generate a report that includes the Quantities and Estimated cost of the Beams, Columns, and Slabs. For the sake of this example, we won't include the Connections.

In the Connection and Form Costs area, "expand" the concrete item. A number of different form and connection cost fields appear. In the slab form cost field enter 0.02. This will be the cost of the slab forms in dollars per square foot. Now choose finish and the Bill of Materials Report is generated. The overall cost should sum out to around \$9300.

Bill of Materials Report

ASTM A992 Grade 50 Material:

Member Name	Quantity ft	Volume ft^3	Weight K	Unit \$/lb	Cost \$
W14x43	80	7	3.4353	1.50	5152.90
W16x26	80	4.2667	2.0939	1.25	2617.34
Totals	Quantity ft	Volume ft^3	Weight K		Cost \$
Members:	160	11.267	5.5291		7770.24
Total:		11.267	5.5291		7770.24

Concrete (F'c = 4 ksi) Material:

Plate Thickness	Quantity in^2	Volume ft^3	Weight K	Unit \$/ft	Cost \$
6.0000"	28800	100	15	0.10	1500.00
Totals	Quantity ft	Volume ft^3	Weight K		Cost \$
Plates:	28800	100	15		1500.00
Total:		100	15		1500.00

Grand Totals

Category	Quantity	Cost
Materials	20.529 K	\$9270.24
Connections	0	\$0.00
Forms	0 in^2	\$0.00
Total:		\$9270.24