



Design to Fabrication then Fabrication ESTmep: Using the Design Model for Estimating Using Fabrication Parts

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MEP & Structural Fabricators (MSF) Forum at AU Las Vegas 2017

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Review of REVIT file contents and use of View Filters to Assist

- Know Your Scope!!
 - Navigating the Project Browser
 - Locating Views
 - Expanding Groups or Collapsing Groups

Review of REVIT file contents and use of View Filters to Assist

- Use of Filters and Location to Access
- Visibility/Graphic Overrides
 - Isolate Categories and apply Filters

Review options to convert REVIT Design to FAB Parts Directly Inside of REVIT & Make Conversions

- Methods for converting Design Parts to FAB Parts
 - System by System
 - Entire View
 - Select Items

Review options to convert REVIT Design to FAB Parts Directly Inside of REVIT & Make Conversions

- Autodesk Design to Fabrication Button
 - Conversion of System
 - In-line components not being converted

Review options to convert REVIT Design to FAB Parts Directly Inside of REVIT & Make Conversions

- Automating the Conversion of In-line Components
 - Service Setup
 - Specific REVIT Button Mappings
 - CSUSA Design to Fabrication
 - In-line components getting converted

Exporting .MAJ file out of REVIT to be opened with CADmep, ESTmep & CAMduct

- Exporting of .MAJ File
 - Saving File and opening file with ESTmep
 - Only converted parts are exported within .MAJ file
 - Notice Hangers and Design Lines are missing
 - Use of Workspace Filters to isolate by Service
 - Revdesign “Revd” Command to insert Design Line
 - Fill Auto Hangers

Review of .MAJ file in ESTmep to Run Reports & Data Exports containing Estimating Information

- Using Estimating Summary to Validate Items
 - Review Item Costs, Review Installation Times & Review Fabrication Times

Review of .MAJ file in ESTmep to Run Reports & Data Exports containing Estimating Information

- Reports
 - Print Preview and running of Reports
 - Data Exports and review of Data
 - Use of Schedules to cover all Design Content that did not get converted
 - Linking of Schedules to existing Data Exports

Actual Totals

Converted Model

Piping System Total Pipe Length			
Fabrication Service Name	Size	Family	Length
			<u>2693' - 5"</u>

Duct Total Weights By Gauge		
Part Material	Gauge	Weight

<u>FAB HVAC: Galvanized</u>	<u>18 ga</u>	<u>3431 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>20 ga</u>	<u>16126 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>22 ga</u>	<u>10302 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>24 ga</u>	<u>8518 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>26 ga</u>	<u>482 lb</u>

<u>FAB HVAC: Galvanized Slit Coils</u>	<u>24 ga</u>	<u>4684 lb</u>
<u>FAB HVAC: Galvanized Slit Coils</u>	<u>26 ga</u>	<u>3567 lb</u>
		<u>47110 lb</u>

Coordinated Model

Piping System Total Pipe Length			
Fabrication Service Name	Size	Family	Length
			<u>3486' - 2"</u>

Duct Total Weights By Gauge		
Part Material	Gauge	Weight

<u>FAB HVAC: Galvanized</u>	<u>18 ga</u>	<u>3253 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>20 ga</u>	<u>10692 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>22 ga</u>	<u>11489 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>24 ga</u>	<u>16173 lb</u>
<u>FAB HVAC: Galvanized</u>	<u>26 ga</u>	<u>1499 lb</u>

<u>FAB HVAC: Galvanized Slit Coils</u>	<u>24 ga</u>	<u>4922 lb</u>
<u>FAB HVAC: Galvanized Slit Coils</u>	<u>26 ga</u>	<u>3649 lb</u>
		<u>51676 lb</u>

Actual Totals

Converted Model

Pipng Summary			
Row Labels	Sum of M-Rate	Sum of InstallTime	Sum of HrsInstallTime
CHWR	\$ 14,969.21	15.00	360.05
CHWS	\$ 24,402.70	21.56	517.51
HHWR	\$ 21,730.56	16.55	397.23
HHWS	\$ 13,855.40	11.45	274.69
(blank)			0.00
LPC	\$ 229.57	0.62	14.89
LQ	\$ 230.74	0.28	6.82
SU	\$ 82.86	0.12	2.80
Grand Total	\$ 75,501.04	65.58	1573.99

Coordinated Model

Piping Summary			
Row Labels	Sum of M-Rate	Sum of InstallTime	Sum of HrsInstallTime
CHWR	\$ 14,463.23	13.80	331.16
CHWS	\$ 44,346.46	35.65	855.68
HHWR	\$ 18,595.99	14.64	351.29
HHWS	\$ 14,172.80	11.48	275.57
(blank)			0.00
SU	\$ 2,593.03	1.25	30.11
LQ	\$ 2,661.66	1.28	30.64
Grand Total	\$ 96,833.17	78.10	1874.45

Actual Totals

Converted Model

Duct Summary									
Row Labels	Sum of \$M-Rate	Sum of #ItemWeight	Sum of #MatWeight	Sum of #DuctWeight	Sum of Arealtem	Sum of AreaDuct	Sum of HrsFabTimeItem	Sum of HrsInstallTimeItem	
Rectangular Duct	\$ 23,119.53	36545.37	33127.75	32365.41	22243.79	21719.57	695.63	1115.49	
Round Duct	\$ 14,443.44	12132.59	10862.02	8824.17	8713.23	8577.99	315.39	480.15	
(blank)							0.00	0.00	
Grand Total	\$ 37,562.97	48677.96	43989.78	41189.59	30957.03	30297.57	1011.02	1595.65	

Coordinated Model

Duct Summary									
Row Labels	Sum of \$M-Rate	Sum of #ItemWeight	Sum of #MatWeight	Sum of #DuctWeight	Sum of Arealtem	Sum of AreaDuct	Sum of HrsFabTimeItem	Sum of HrsInstallTimeItem	
Duct Accessory	\$ 239.73	373.33	314.10	285.55	213.28	193.89	33.45	44.90	
Rectangular Duct	\$ 24,781.16	38819.48	34150.48	33136.94	24518.28	23804.00	883.29	1352.31	
Round Duct	\$ 11,527.54	12504.29	11146.35	10381.77	10398.49	10140.53	440.16	496.98	
(blank)							0.00	0.00	
Grand Total	\$ 36,548.43	51697.10	45610.93	43804.26	35130.05	34138.42	1356.89	1894.19	



Make anything.