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## MATERIAL ESTIMATE

(Manual Worksheet)

Date: mm/dd/yyyy

Name:	Sample		
Location:			
Start Date:	mm/dd/yyyy		

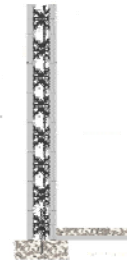
**Project Specifications** (Complete separate worksheets for walls with different heights and/or wall thicknesses)

Wall Length:	148	ft	# Outside 90° Corners:	7	# Concrete Pours:	1	
Wall Height:	9	ft	# Inside 90° Corners:	3			
Web Size:	6	in	# Outside 45° Corners:	2	Vertical Rebar:	10M/#4	1.333333 (feet)
Length of Brick:	133	ft	# Inside 45° Corners:	2	Horizontal Rebar:	10M/#4	2 (feet)

1.) Calculate the number of courses

$$\frac{\text{Total Height (feet)}}{\text{Course Height (feet)}} = \frac{9}{1.02} = 8.82$$

(Round up to closest .5) = 9 Courses



2.) Calculate number of 90° Corners Sets

$$\# \text{ 90° corners} \times \# \text{ Courses} = 10 \times 9 = 90 \text{ 90° Corners Sets}$$



Total Sets: 90

3.) Number of 45° Panels

$$\# \text{ 45° corners} \times \# \text{ Courses} = 4 \times 9 = 36 \text{ 45° Corners Panels}$$



**Simple Method:**

Order the same amount of 45° Inside panels as 45° Outside panels

Total Inside Panels: 36

Total Outside Panels: 36

OR

**Adjusted for Brickledge Panels:**

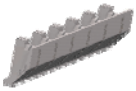
OR

45° Corners Panels:	36	
# of 45° Inside Corners with Brick:	2	(Deduct)
	34	
45° Corners Panels:	36	
# of 45° Outside Corners with Brick:	2	
	34	

Total Inside Panels: 34

Total Outside Panels: 34

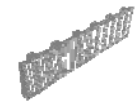
**4.) Calculate the number of Brickledge or Taper Panels**



**i.) Brickledge Panels**

\* Note: Brickledge was chosen to lower the brick height to grade

$$\frac{\text{Length of Brick } \underline{133}}{\text{(feet)}} - \text{(less)} \frac{\text{Door Widths } \underline{3}}{\text{(feet)}} = \underline{130} \text{ / (divided)} \underline{4'} = \underline{32.5} \text{ Brickledge Panels}$$



**ii.) Taper Panels**

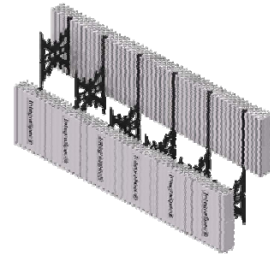
\* Choose the Taper panel if brick is to start at the top of the foundation

$$\frac{\text{Length of Brick}}{\text{(feet)}} \text{ / (divided)} \underline{4'} = \underline{\hspace{2cm}} \text{ Taper Panels}$$

**5.) Calculate the number of Standard Panels**

**a) Calculate the adjusted length of wall of standards. (Use information from page 1 Project Specification)**

$$\begin{aligned} \text{Wall Length:} & \hspace{10em} \underline{148} \\ \# \text{ Outside } 90^\circ \text{ Corners: } & \underline{7} \times 4' = \underline{28} \\ \# \text{ Inside } 90^\circ \text{ Corners: } & \underline{3} \times 2' = \underline{6} \\ \# \text{ Inside } 45^\circ \text{ Corners: } & \underline{2} \times 2' = \underline{4} \\ \# \text{ Outside } 45^\circ \text{ Corners: } & \underline{2} \times 3' = \underline{6} \\ & \underline{44} \quad \rightarrow \quad \underline{44} \\ \text{Total Factored Length: (Deduct corners from Wall Length)} & \underline{60} \end{aligned}$$



**b) Calculate # of Standard Units per Row**

Factored Length (5a) divided by Length of Standard Panel

$$\frac{\underline{60}}{4'} = \underline{15}$$

**c) Calculate the # Standard Panels to be removed for all openings**

Total sq.ft. of openings divided by square footage of Standard Panel

$$\text{sq.ft. Openings: } \frac{\underline{33}}{\underline{4.08}} = \underline{8.09}$$

**d) Calculate the total # of Standard Units**

# of Standard Units per Row (5b) multiplied by the # of Courses (1) less Opening Standards

$$\frac{\underline{15}}{\text{(5b)}} \times \frac{\underline{9}}{\text{(1)}} = \underline{135} - \frac{\underline{8.00}}{\text{(5c)}} = \underline{127.00} \text{ Standard Units}$$

**e) Calculate the total # of Standard Panels**

Total # Standard Units (5d) times 2 less number of Brickledge or Taper Units

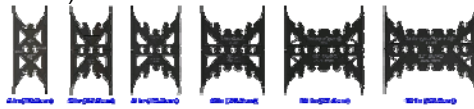
$$\frac{\underline{127.00}}{\text{(5d)}} \times \underline{2} = \underline{254} - \frac{\underline{32.5}}{\text{(4)}} = \underline{222} \text{ Standard Panels}$$

Note: Increase panels to allow for waste. 3.5% is a typical waste factor, however increase waste factor for more difficult projects

$$\frac{\underline{221.5}}{\text{(5e)}} \times \frac{\underline{1.035}}{\text{3.50\%}} = \underline{229} \text{ Total Standard Panels}$$

# IntegraSpec Material Estimate Sheet

(Continued)



## 6.) Calculate the number of Webs/Spacers required

Total # of Standard Panels (5e):	<u>222</u>	x	<u>3</u>	=	<u>666</u>
Total # of Brickledge Panels (4i):	<u>33</u>	x	<u>3</u>	=	<u>99</u>
Total # of Taper Panels (4ii):	<u>0</u>	x	<u>3</u>	=	<u>0</u>
Total # of 90° Corner Sets (2):	<u>90</u>	x	<u>4</u>	=	<u>360</u>
Total # of 45° Inside Corner Panels (3):	<u>34</u>	x	<u>2</u>	=	<u>68</u>
Total # of 45° Outside Corner Panels (3):	<u>34</u>	x	<u>2</u>	=	<u>68</u>
(Add above)					<b>1261</b> Total Webs/Spacers (Pieces)

## 7.) Calculate the number of IntegraBucks required for all openings

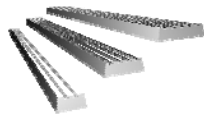
Total # of IntegraBucks = Total Height of All Openings times 2



Total Height of All Openings: 11 (Feet) x 2 = **22** IntegraBucks (Pieces)

## 8.) Calculate the # of IntegraHeaders

Total # of IntegraHeaders = Total Width of All Openings divided by IntegraHeader Length

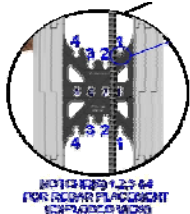


Total Width of All Openings: 9 (Feet) / 8' (divided) = **9** IntegraHeaders (Pieces)

## 9.) Calculate the amount of Steel Rebar

a.) **Horizontal Rebar:** Wall Height (feet) divided by the Horizontal Spacing (feet) times Wall Length (feet)

**Note:** (Adjust rebar spacing to accommodate panel heights or half heights) (Round up to nearest full row)



$$\left( \frac{\text{Total Height}}{\text{(Feet)}} \div \frac{\text{Horizontal Spacing}}{\text{(Feet)}} \right) \times \frac{\text{Total Length}}{\text{(Feet)}} = \mathbf{740} \text{ Horizontal Rebar}$$

**Note:** Add extra material for overlaps and waste. Typical percentage is 12%, adjust for more difficult projects

Horizontal Rebar: 740 x 12% = **89** Extra Horizontal Rebar

b.) **Vertical Rebar:** Total Length divided by the Vertical Spacing (feet) times Total Height

$$\frac{\text{Total Length}}{\text{(Feet)}} \div \frac{\text{Vertical Spacing}}{\text{(Feet)}} \times \frac{\text{Total Height}}{\text{(Feet)}} = \mathbf{999} \text{ Vertical Rebar}$$

**Note:** Add extra material for overlaps and waste. Typical percentage is 3%, adjust for multi level projects

Vertical Rebar: 999 x 3% = **30** Extra Vertical Rebar

**Note:** Horizontal Rebars and Vertical Rebars can be added together only if the size of bar is the same

**10.) Calculate the amount of Concrete**

a.) Wall Length times Actual Wall Height<sup>1</sup> less Total Square footage of Openings times Web/Spacer Size divided by 12

$$\frac{148}{\text{(Feet)}} \times \frac{9.18}{\text{(Feet)}} - \frac{33}{\text{(Square Feet)}} \times \frac{6}{\text{(inches)}} \div \frac{12}{\text{(inches)}} = \frac{662.82}{\text{(Cubic Feet)}}$$

**Note<sup>1</sup>:** Actual Wall Height is the height to be built on site. This will depend on whether the top panel will be cut to match a specific height or left as a full panel. (eg. 9 Courses = 9 x 1.02 = 9.18)

**Note<sup>2</sup>:** Change Cubic Feet to Cubic Yards, Divide by 27

$$\text{Cubic Feet Concrete: } \frac{662.82}{\text{(Cubic Feet)}} \div \frac{27}{\text{(Cubic Feet)}} = \frac{24.54889}{\text{(Cubic Yards)}}$$

**Concrete**

b.) Add extra concrete material for brickledge, tapers & pumptruck

# Brickledge (4i)		Multiplier	=		}	=	
<u>32.5</u>	x	<u>0.0286</u>	=	<u>0.9295</u>			
# Taper (4ii)		Multiplier	=				
<u>0</u>	x	<u>0.0083</u>	=	<u>0</u>			<u>1.6795</u>
# of pours			=				<u>0.75</u>
<u>1</u>	x	<u>0.75</u>	=	<u>0.75</u>			<b>Concrete</b>

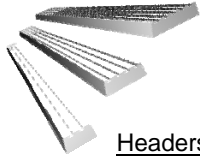
**Total Concrete:** 26.23  
(Cubic Yards)

**Note<sup>3</sup>:** Multiply Total Concrete by .765 to convert Cubic Yards to Cubic Metres

20.06  
(Cubic Metres)

**11.) Additional Work Space**

Use this area to calculate other material such as waterproofing, parging, # of braces/scaffolding, labour, etc.



Headers



## Openings Worksheet

<b>Name:</b> <b>Sample</b>		
<b>Location:</b>		
<b>Start Date:</b> <b>mm/dd/yyyy</b>		

### Windows (In feet)

	Width	Height	Sq.Ft.		Width	Height	Sq.Ft.		Width	Height	Sq.Ft.
1.)	3	2	6	11.)				21.)			
2.)	3	2	6	12.)				22.)			
3.)			0	13.)				23.)			
4.)				14.)				24.)			
4.)				15.)				25.)			
6.)				16.)				26.)			
7.)				17.)				27.)			
8.)				18.)				28.)			
9.)				19.)				29.)			
10.)				20.)				30.)			
Totals:	6	4	12								

### Doors (In feet)

	Width	Height	Sq.Ft.		Width	Height	Sq.Ft.		Width	Height	Sq.Ft.
1.)	3	7	21	6.)				11.)			
2.)				7.)				12.)			
3.)				8.)				13.)			
4.)				9.)				14.)			
5.)				10.)				15.)			
Totals:	3	7	21								

### Other (In feet)

	Width	Height	Sq.Ft.		Width	Height	Sq.Ft.		Width	Height	Sq.Ft.
1.)				6.)				11.)			
2.)				7.)				12.)			
3.)				8.)				13.)			
4.)				9.)				14.)			
5.)				10.)				15.)			
Totals:											

Note: This area can be used for fireplaces, interior openings or just walls ends

