



ILLINOIS BRICK COMPANY • P.O. BOX 1123, 7801 WEST 79TH STREET, BRIDGEVIEW, ILLINOIS 80465-0123  
DIVISION OF PRAIRIE MATERIAL SALES, INC. (708) 344-1000

‘RULE OF THUMB FIGURES’

BLOCK	2 ½ BAGS MORTAR PER 100 BLOCK (40 BLOCK PER BAG) 800LB OF SAND PER 100 BLOCK 1.125 BLOCK PER SQ FT OF WALL AREA 75% OF LENGTH OF WALL GIVES NO. OF BLOCK PER COURSE TAKE HEIGHT OF WALL (IN FEET) TIMES 1.5 FOR NO. OF COURSES
BRICK	APPROX. 7 BAGS OF MORTAR PER 1000 BRICK (143 BRICK PER BAG) APPROX. 1 TON SAND PER 1000 BRICK FIGURE BRICK 7 PER SQ FT OF WALL AREA (ALLOWS FOR WASTE) 1 ½ BRICK PER RUNNING FOOT ON WALL 4.625 COURSES OF BRICK PER FOOT OF WALL HEIGHT 5 BRICK PER SQ FT FOR PAVING, HEARTHES (LAID FLAT SOLID BRICK)
CEMENT PLASTER	¼" THICK (100 SQ FT) 220LB SAND .8 BAG MORTAR 1/3" THICK (100 SQ FT) 330LB SAND 1.2 BAG MORTAR ½" THICK (100 SU FT) 440LB SAND 1.5 BAG MORTAR
CONCRETE	4-2-1 MIX- 1 TON GRAVEL, ½ TON SAND, 6 BAGS CEMENT <i>1 cu yard.</i>
FIRE CLAY	2 PARTS FIRE CLAY, 3 PARTS CEMENT
FILLING BLOCK	CORES WITH CONCRETE 12" BLOCK - 1.64 CU YD PER 100 BLOCK (APPROX) 8" BLOCK - .93 CU YD PER 100 BLOCK (APPROX)
FLINTKOTE	APPROX. 3 GAL PER 100 SQ FT (WALL AREA WATER SOLUBLE, BRUSH ON)
MORTAR	MIX 1 PART MORTAR TO 2 TO 2 ½ PARTS SAND
PLASTIC PIPE	APPROX. 100 LBS GRAVEL PER RUNNING FOOT OF PIPE
SAND-GRAVEL	APPROX. 3000 LBS PER CU YD (NO. YDS TIMES 1.5 FOR TONS)
FASWALL	50 LB BAG COVERS APPROX. 25 BLOCK BOTH SIDES 1/8" THICK
THOROSEAL	BASE COAT- 60LB PAIL COVERS APPROX. 270 SQ FT WALL AREA
WALL TIES	1 PER EVERY 10 BRICK (100 WALL TIES PER 1000 BRICK)
WHITE SAND	PLASTER AND STUCCO NO. 1 OR 2 SANDBLASTING - NO. 1, 2, 3, OR 4 (NO. 1 FOR FINER JOBS, THE HIGHER THE NO. THE COARSER THE SAND)
ZONOLITE (RYOLEX)	4 CU FT BAG FILLS APPROX. 9-12" BLOCK OR 16-8" BLOCK



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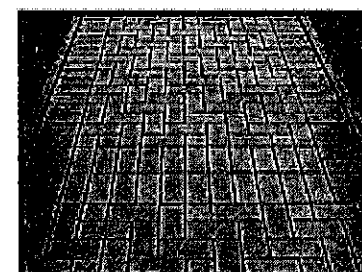
## RESOURCES

Links of Interest:

- [Bia.org](http://Bia.org)
- [GoBrick.com](http://GoBrick.com)
- [Prosoco.com](http://Prosoco.com)

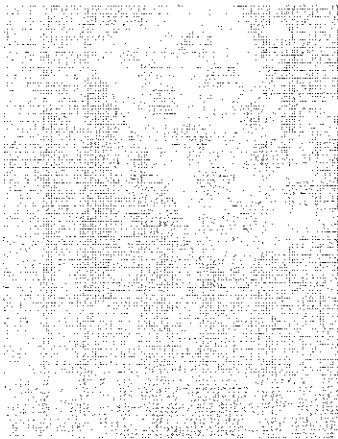
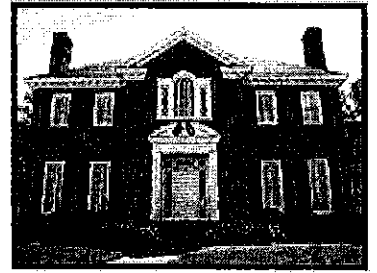
### \* RULE OF THUMB FIGURES \*

BLOCK	2 ½ bags mortar per 100 block (40 block per bag) 800 lb. Of sand per 100 block 1.125 block per sq. ft. of wall area 75% of length of wall gives number of block per course Take height of wall (in feet) times 1.5 for number of courses
BRICK	Approx. 7 bags mortar per 1000 brick (143 brick per bag) Approx. 1-ton sand per 1000 brick Figure Brick 7 per sq. ft. of wall area (allows for waste/modular) 1 ½ brick per running foot on wall 4.625 courses of brick per foot of wall height 5 brick per sq. ft. for paving, hearths (laid flat - solid brick)
CEMENT PLASTER	1/4" thick (100 sq. ft.) 220# sand 8 bag mortar 3/8" thick (100 sq. ft.) 330# sand 1.2 bag mortar ½" thick (100 sq. ft.) #440 sand 1.6 bag mortar
CONCRETE	4-2-1 Mix - 1-ton gravel, ½ ton sand, 6 bags cement
FIRE CLAY	2 parts fire clay, 3 parts cement
FILLING BLOCK	Core with concrete: 12" block - 1.64 cu. yd. Per 100 block (approx.) 8" block - .93 cu. yd per 100 block (approx.)
FLINTKOTE	Approx. 3 gal. per 100 sq. ft. wall area (water-soluble, brush on)
MORTAR	Mix one part mortar to 2 to 2 ½ parts sand
PLASTIC PIPE	Approx. 100 lbs. Gravel per running foot of pipe
SAND- GRAVEL	Approx. 300 lb. per cu. yd. (no. yards x 1.5 for tons) Approx. 110 lb. per cu. yd. (27 cu. ft. in cu. yd.)
FASWELL	50 lb. bag covers approx. 25 block both sides 1/8" thick
THOROSEAL	Base coat - 60# pail covers approx. 270 sq. ft. wall area



- WALL TIES** 1 per every 10 brick (100 wall ties per 1000)
- WHITE** Plaster and Stucco - No. 1 or 2
- SAND** Sandblasting - No. 1, 2, 3, or 4  
(No. 1 for finer jobs, the higher the No., the coarser the sand)
- ZONOLITE** 4 cu. ft. bag fills approx. 9-12' block or 16-8" block

\* Custom Brick Company cannot accept responsibility for estimating jobs.  
These figures should be used to help customers.



# Material Estimating

## Measurements

**One Ton**= 2000 lbs.

**One Cubic Yard**= 27 Cubic Feet 3'x3'x3'= 27 cubic feet

**Square Feet**= length x width 10'x10'= 100 sq. ft.

## Natural Stone

### Full Dimensional Stone

Approx 1.5 tons per pallet

Building Stone 3" to 5" thick approx 35-40 sq. ft. per ton

3 bags of mortar and 1/2 yard of sand per ton of stone.

### Thin Veneer

Less than 15 lbs. per sq. ft.

Approx 125 sq. ft. per pallet

Approx 8 sq. ft. per EZ Pac Mini

**\*\*Thin Brick & Natural Stone must be thoroughly washed prior to installation. Please download the "Natural Stone Thin Veneer" brochure for additional details.\*\***

### Flagstone

Thin Patio 1" to 1/2" thick covers approx 150-180 sq. ft.

Patio Grade 1" to 2" thick covers approx 100-120 sq. ft.

Slabs 2" to 3" thick covers approx 75-100 sq. ft.

### Concrete Masonry Units (CMU)

**4"X8"X16"**= 1.125 block per sqft

2 1/2 bags mortar per 100 block (40 block per bag)

1/2 yard of sand per 100 block

### Brick Sizes & Square Footage Info

Approx. 7 bags mortar per 1000 brick (143 brick per bag)

Approx. 1 yard of sand per 1000 brick

4.5 brick per sq. ft. for paving, hearths (laid flat - solid brick)

Wall Ties- 1 per every 10 brick (100 wall ties per 1000)

**Modular Size-** 3 5/8"d X 2 1/4"h X 7 5/8"l

Approx 6.86 per sqft

**Standard Size-** 3 1/2"d X 2 1/4"h X 8"l

Approx 6.55 per sqft

**Queen Size-** 2 3/4"d X 2 3/4"h X 8"l

Approx 5.5 per sqft

**Engineer Size-** 3 1/2"d X 2 3/4"h X 8"l

Approx 5.5 per sqft

**Big John Size-** 3"d X 2 5/8"h X 8 5/8"l

Approx 5.33 per sqft

**King Size-** 3"d X 2 5/8"h X 9 5/8"l

Approx 4.8 per sqft

**Executive or 3x10 Size-** 3"d X 3"h X 10"l

Approx 4.1 per sqft

**Roman Size-** 3 5/8"d X 1 5/8"h X 11 5/8"l

Approx 6 per sqft

**Norman Size-** 3 5/8"d X 2 1/4"h X 11 5/8"l

Approx 4.57 per sqft

**Utility Size-** 3 5/8"d X 3 5/8"h X 11 5/8"l

Approx 3.0 per sqft

**Closure-** 3 1/2"d X 3 5/8"h X 7 5/8"l

Approx 5.4 per sqft

**Wall Unit-** 3 1/2"d X 7 5/8"h X 7 5/8"l

Approx 2.25 per sqft

**4x16 Size-** 3 5/8"d X 3 5/8"h X 15 5/8"l

Approx 2.25 per sqft

**8x16 Size-** 3 5/8"d X 7 5/8"h X 15 5/8"l

Approx 1.125 per sqft

\* Square footage estimates are based on use of a 3/8" Mortar Joint. For specific regional availability and sizing, please contact your Metro Brick representative. Estimating blueprints is a courtesy. Take-offs are not guaranteed. Double check quantities with mason prior to ordering.

**Calculate Number of Brick Needed for your project**

1. Add up the total square footage of brick wall area.  
(Multiply height x length of brick wall area.)
2. Add up the total square footage of masonry openings.  
( Window and door areas not requiring brick.)
3. Subtract masonry opening square footage from brick wall area square footage.
4. Multiply this number of 7 if using modular size brick
5. Multiply this number by 5.8 if using engineer size brick

**Example:**

1530 Square feet of wall area. 154 square feet of windows and doors (Masonry Openings)

1530 minus 154 = 1376 Square feet of brick wall

$1376 \times 7 = 9,976$  modular size brick

$1376 \times 5.8 = 8,394$  engineer size brick

**How to Figure Pavers:**

1. Add up the total square footage of the horizontal area.
2. Multiply this number by 5

**Example:**

10 x 10 area = 100 Square Feet of paving area.

100 Square Feet x 5 = 500 pavers needed for a 100 square foot area.

# Calculations and Conversions

## Calculations

### View Calculator

#### How to compute the amount of materials needed:

- **Sold by the cubic yard:** soil, mulch, compost, fill dirt.
- **Sold by the ton:** aggregates, sand, ball diamond clay, golf course material.

#### **Inches to Feet**

1" divided by 12"=.08'

**2" divided by 12"=.17'**

3" divided by 12"=.25'

**4" divided by 12"=.33'**

5" divided by 12"=.42'

**6" divided by 12"=.50'**

7" divided by 12"=.58'

**8" divided by 12"=.67'**

9" divided by 12"=.75'

**10" divided by 12"=.83'**

11" divided by 12"=.92'

**12" divided by 12"=1.0'**

#### **For materials sold by the cubic yard:**

- L x W x D divided by 27 = cubic yards
- Multiply length by width = square feet
- Multiply square feet by depth (inches divided by 12) = cubic feet
- Cubic feet divided by 27 to= cubic yards

#### **For material sold by the ton:**

Use the same formula as calculating for cubic yards

Multiply the cubic yards by the tons per cubic yard conversion (table 2)

#### **Area of a circle:**

3.14 X the radius (1/2 the diameter of a circle) squared = square feet. You can now take the square feet and divide by 9 to get square yards or tons.

## Conversion Chart on Coverage for Mulches and Compost

#### **1 cubic yard will cover:**

- 324 Sq. Ft. = 1" Deep
- 162 Sq. Ft. = 2" Deep
- 108 Sq. Ft. = 3" Deep
- 81 Sq. Ft. = 4" Deep
- 65 Sq. Ft. = 5" Deep

- 54 Sq. Ft. = 6" Deep

### 3.0 cubic ft bags will cover:

- 36 Sq. Ft. = 1" Deep
- 18 Sq. Ft. = 2" Deep
- 12 Sq. Ft. = 3" Deep
- 9 Sq. Ft. = 4" Deep
- 7 Sq. Ft. = 5" Deep
- 6 Sq. Ft. = 6" Deep

## Yard to Ton Conversions

Material	1 yard = 1.0 ton
Mulch	1 yard = 5 ton
Mixed Soils	1 yard = 1.0 ton
Compost	1 yard = 1.0 ton
Silica Sand	1 yard = 1.3 ton
Slag	1 yard = 1.1 ton
Gravel	1 yard = 1.4 ton
Decorative Stone	1 yard = 1.3 ton
Recycled Concrete	1 yard = 1.3 ton
Brick Materials	1 yard = 1.3 ton
Ball Diamond Clay	1 yard = 1.5 ton
Limestone	1 yard = 1.4 ton

**To convert yards squared yards to yards cubes, divide by 9**  
**To convert cubic feet to cubic yards, divide by 27**

Vehicle	Size	Volume
S-10 Pickup Truck	4' x 6'	Water level - 1 yd. Heaping - 1.5 yds.
Full size pick-up	8' bed	Water Level - 2 yds. Heaping - 3 yds.
Single Axle 1 ton (350) with dump bed	96" L x 78" W x 28" H	Water Level - 5 1/2 yds. Heaping - 6 yds.
1.5 ton (350 Super Duty)	120" L x 84" W x 25" H	Water Level - 6 yds. Heaping - 7 yds.
2 ton (F800)	120" L x 84" W x 37" H	Water Level - 8 yds. Heaping - 10 yds.
Triaxle (LT8000)	192" L x 88" W x 60" H	Water Level - 22 yds. Heaping - 25 yds.
Triaxle (LT9000)	214" L x 88" W x 74" H	Water Level - 30 yds. Heaping - 35 yds.

## How much mulch do I need?

How to read the table:



- Figure the length of the area to cover.
- Figure the width of the area to cover.
- Multiply length by width to calculate the square footage.
- Locate the square footage on the chart on the next page.
- Locate the number in inches you want to fill (depth) across the top of the chart. (We recommend 2-4 inches for mulching; 12" for playground surfaces)
- The number in the column represents the number of cubic yards required.

## Base Material Calculation

The following formula is used to calculate the amount of base gravel only:

- **NOTE:** Base should extend 6" below your finished installation for structural purposes.
- **Step 1:** Length x width = total square feet of area
- **Step 2:** Total square feet of area x depth (inches divided by 12) = total cubic feet of area
- **Step 3:** Total cubic feet of area divided by 27 = total cubic yards of material needed
- **Step 4:** Add 10 to 20% to above calculation to allow for compaction

## Limestone Screening Calculation

The following formula is used to calculate the amount of Limestone Screening:

- **Step 1:** Length x width = total square feet of area
- **Step 2:** Total square feet of area x depth (inches divided by 12) = total cubic feet of area
- **Step 3:** Total cubic feet of area divided by 27 = total cubic yards of material needed
- **Step 4:** Add 10 to 20% to above calculation to allow for compaction

## Jointing Sand Calculation

The following formula is used to calculate the amount of jointing sand:

- **Step 1:** Length x Width = total square feet of area
- **Step 2:** Total square feet of area + 100 (coverage of 1 bag) = total # of bags required
- **Step 3:** Round up to the next full bag
- **NOTE:** Reduce coverage of 1 bag in step #2 to 75 when calculating for a circular pattern job.

## Edging Calculations

- **Step 1:** Total linear feet/15 = Number of pieces required
- **Step 2:** Repeat step 1 for all sides requiring edging
- **Step 3:** Add all individual calculations
- **Step 4:** Round up to the next full piece count
- **Step 5:** Number of pieces x price per piece = cost of material

**NOTE:** Edging includes 4 spikes per 15 ft section.

## **Miscellaneous:**

- 1 acre = 43,560 square feet
- 1.3079 Cubic Yards = 1 Cubic Yard
- 2000 lbs = 1 Cubic Yard
- ' = feet
- " = inches
- radius = 1/2 diameter

## Lynn Smith

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**From:** Gail Crowdis [gail.c@alliancegator.com]  
**Sent:** Tuesday, June 26, 2012 2:12 PM  
**To:** Lynn Smith  
**Subject:** RE: What it the coverage per bag?

The coverage for the sand is as follows:

Narrow joints 65-85 sq. feet per 50 lb bag – Wide joints 22-42 sq. ft per 50 lb. bag based on a 2 ¼" depth.

The Gator Dust coverage is:

20-30 sq. ft per 50 lb bag.

Regards,

Gail Crowdis  
Alliance Designer Products, Inc.  
[gail.c@alliancegator.com](mailto:gail.c@alliancegator.com)  
1-866-212-1611

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**From:** [info@alliancegator.com](mailto:info@alliancegator.com) [<mailto:info@alliancegator.com>]  
**Sent:** June 26, 2012 9:13 AM  
**To:** 'Gail Crowdis'  
**Subject:** FW: What it the coverage per bag?

-----Original Message-----

**From:** Lynn Smith [<mailto:LSmith@illinoisbrick.com>]  
**Sent:** June 25, 2012 4:08 PM  
**To:** 'info@alliancedp.com'  
**Subject:** What it the coverage per bag?

Lynn Smith  
Customer Service Manager  
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\* Provide the highest quality products at competitive prices  
\* Provide excellent customer service  
\* Always deliver products and service in a timely manner