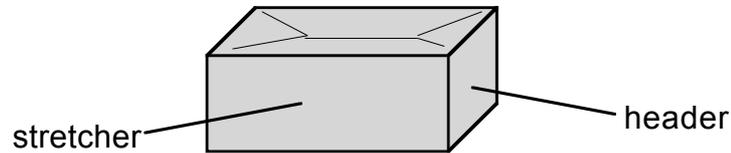


Data sheet

Bricklaying

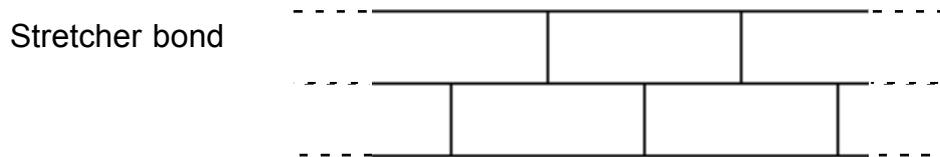
Bricks are usually cuboid shape with dimples in the top and bottom faces. The long face is called the 'stretcher' and the short end face the 'header'.



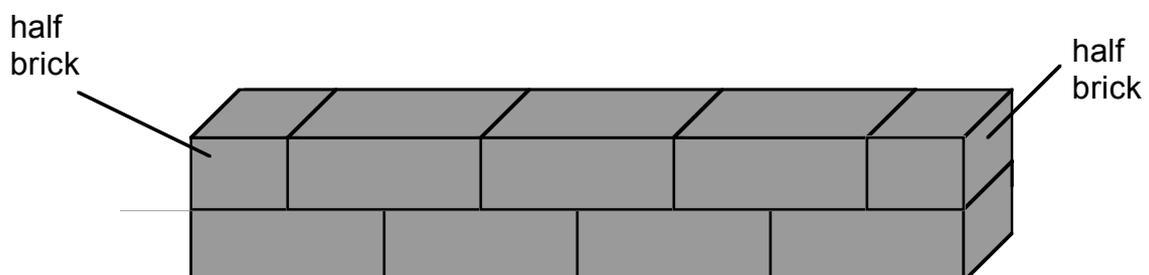
To make a brick wall you lay bricks on top of each other with mortar (a mixture of sand and cement and water) between to hold them together.

Stretcher bond

Bricks can be laid in many different patterns. The simplest pattern is '**Stretcher bond**', where one layer of bricks is offset by half a brick above the layer below. The thickness of the mortar is adjusted to keep bricks correctly spaced.



Here is an example of a stretcher bond wall. The bottom layer is four bricks long and the next layer is three whole bricks and two half-bricks. The mortar between the bricks is not shown.

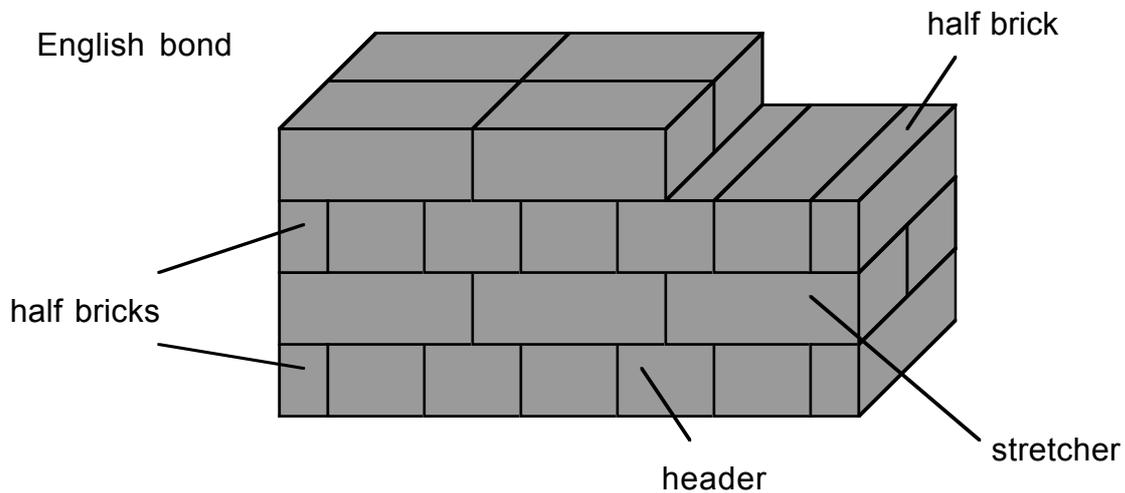


One whole brick can be used to make two half-bricks, so each layer uses the same number of bricks.

English bond

A stronger wall (with a more interesting pattern) is made by laying bricks using '**English bond**'. In this arrangement, alternate layers of bricks are laid showing stretchers and headers.

This diagram shows four layers of brick laid in English Bond pattern



An English bond wall has a thickness of one brick length.

One whole brick can be used to make two half-bricks

Buying bricks

All bricks are sold in pallets of 500 bricks. You can only buy bricks in pallets. For example, if you want 1200 bricks you will have to buy 3 pallets of 500 each. The least number of bricks you can buy is 1 pallet of 500.

The price of bricks is quoted as 'so much per thousand bricks'.

Standard house / wall bricks cost £495 per thousand.

A single pallet will cost half of the rate per thousand.

Questions

Bricklaying

1

- (a) What is the cost of one pallet of 500 standard house bricks?

£ -----

- (b) A builder needs 4200 bricks for a wall.

How many pallets will she have to buy?

- (c) She buys standard house bricks.

How much will she have to pay?

£ -----

2

- (a) How many bricks are needed for a stretcher bond wall that is 20 stretcher lengths wide and 18 layers tall?

- (b) How many half bricks are used in this wall?

3

There are 2500 bricks available to build a wall in English bond.

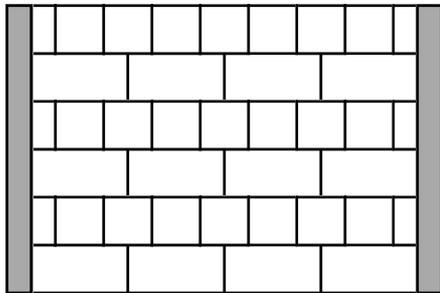
The wall has to be 40 stretcher lengths wide.

How many complete layers of brick can it have?

4

Here is a diagram of a wall built between two posts using English Bond.

How many of the bricks used to make the wall cannot be seen?



5

In walls that have bricks that cannot be seen, 'rough finish' bricks can be used. These are cheaper than standard bricks.

Here are the prices.

supplied in pallets of 500 bricks	
standard bricks:	£495 per thousand
rough finish bricks:	£350 per thousand

A builder needs 20 000 bricks. He decides that 25% of them can be rough finish bricks.

How much will the bricks cost altogether?
