Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q27

Answer :

We have,

Volume of the godown $(V) = 40\,\text{m} \times 25\,\text{m} \times 10\,\text{m}$

Volume of each crate $(v) = 1.5\,\text{m} \times 1.25\,\text{m} \times 0.5\,\text{m}$

We need to find the maximum number of crates in the godown that can be placed

Hence, the number of crates that can be stored,

$$n = \frac{V}{v}$$

$$= \frac{40\,\text{m} \times 25\,\text{m} \times 10\,\text{m}}{1.5\,\text{m} \times 1.25\,\text{m} \times 0.5\,\text{m}}$$

$$= 10666.67$$

But, we can not place this amount of crates in the godown, as this is not an integer.

So, we can place maximum $\boxed{10666}$ crates in the godown.

Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q28

Answer :

We have,

Length of the wall $(L) = 10\,\text{m}$

$= 1000\,\text{cm}$

Height of the wall $(H) = 4\,\text{m}$

$= 400\ \text{cm}$

Thickness of the wall $(T) = 24\,\text{cm}$

Dimension of the brick is $24\ \text{cm} \times 12\ \text{cm} \times 8\ \text{cm}$

We need to find the number of bricks

Here,

Volume of the wall,

$$V = L \times H \times T$$

$$= (1000 \times 400 \times 24)\,\text{cm}^3$$

Dimensions of the brick are, $24\ \text{cm} \times 12\ \text{cm} \times 8\ \text{cm}$

So, number of bricks in the wall,

$$n = \frac{V}{24\ \text{cm} \times 12\ \text{cm} \times 8\ \text{cm}}$$

$$= \frac{1000 \times 400 \times 24}{24 \times 12 \times 8}$$

$$= 4166.67$$

As this is not an integer, we should take least integer greater than 4166.67.

So, we need $\boxed{4167}$ bricks to build the wall.

********** END **********