

# Masonry Product

## Technical Manual

### Splitface Standard 20 cm CMU

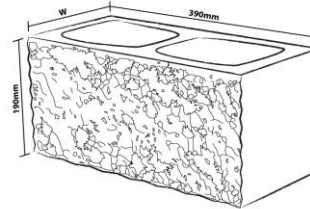
#### Actual Dimensions (mm)

##### STD

Width: 190

Height: 190

Length: 390



**TABLE 1 - Standard 20 cm Physical Properties**

Standard Metric Configuration		Hollow
CSA Designation	"Four-Facet" System	H/15/A,B,C/M
Dimensions (mm)	Min. Face Shell Thickness	32
	Min. Web Thickness	26
	Equivalent Thickness	106
Area (mm <sup>2</sup> )	Gross Area	74,100
	Net Area	41,500
Volume (mm <sup>3</sup> ) x 10 <sup>6</sup>	Gross Volume	14.08
	Net Volume	7.88
Percent Solid (%)	Net Volume/Gross Volume	56%
Unit Mass (kg)	Normal Weight CSA "A"	18.2
Wall Mass (kg/m <sup>2</sup> )	Normal Weight CSA "A"	228
Compressive Strength Minimum (Mpa)	Based on Net Area	15
Fire Performance Rating (Hours)	CSA "A" & "B" (Type S. Conc.)	1.5
	U.L.C. Rating	2.0
	U.L.C. No.	U905
	CSA "C" (Type L <sub>2</sub> 20s Conc.)	2.5
	U.L.C. Rating	4.0
	U.L.C. No.	U901
Sound Properties (Decibels) (Painted Wall)	Sound Transmission Class (STC) CSA "A"	50
Thermal Properties (m <sup>2</sup> . °C/W)	RSI Factors CSA "A"	0.38
Moment of Inertia (mm <sup>4</sup> ) x 10 <sup>6</sup>	Per Block I	194.2
	Per Meter I <sub>m</sub>	498.0
Section Modulus (mm <sup>3</sup> ) x 10 <sup>6</sup>	Per Block S	2.045
	Per Meter S <sub>m</sub>	5.242

**TABLE 1 Explanatory Notes**

1. Compressive strength units noted \* are available in 15, 20, 25, 30, and 35 Mpa
2. Standard weight units ("A") have an oven dry density of concrete of over 2000 kg/m<sup>3</sup>. The aggregate is sand and gravel. In Table 1 a density of 2100 kg/m<sup>3</sup> has been used.
3. Semi light weight units ("B") have an oven dry density of concrete of between 1700-2000 kg/m<sup>3</sup>. The aggregate is natural sand and light weight material. A density of 1800 kg/m<sup>3</sup> has been used in Table 1.
4. Lightweight units ("C") have an oven dry density of concrete of less than 1700 kg/m<sup>3</sup>. Light weight units are produced with aggregates being natural sand and light weight material. In Table 1 a density of 1700 kg/m<sup>3</sup> has been used.
5. Wall mass totals are estimated and do not include an allowance for grout or reinforcing steel.
6. Calculation method of thermal properties is the combined series-parallel heat flow method as per ASHRAE 90.1.

**TABLE 2 - Physical Properties Concrete Masonry Units**

Facet	Symbol	Property		
1st	H S	<b>Solid content</b>		
		Hollow Solid		
2nd	15 20 25 30 35	<b>Minimum compressive strength calculated on net area in MPA</b>		
		<b>Average of 5 units</b>	<b>Individual unit</b>	
		15 Mpa, standard inventory		
		The compressive strength of any individual unit shall be not less than 85% of that of the specific average of 5 units.		
3rd	A B C N	<b>Oven dry mass density of concrete, kg/m<sup>3</sup></b>	<b>Maximum water absorption, kg/m<sup>3</sup></b>	
		Over 2000	175	
		1700-2000	225	
		Less than 1700	300	
		No limits	No limits	
4th		<b>Maximum moisture content, percent of total absorption - average of 5 units</b>		
		<b>Linear Shrinkage, percent</b>	<b>Moisture content</b>	
			<b>RH over 75%</b>	<b>RH under 75%</b>
	M	Less than 0.03	45	40
		0.03-0.045	40	35
		Over 0.045	35	30
O	No limits	No limits (Where drying shrinkage is not of importance)		

**TABLE 2 Explanatory Notes**

Concrete Block Specification CAN3-A165.1-M85

The basic physical properties of concrete masonry units are described by means of the CSA Standard A165.1-M85 - Table 2, employing a four-facet identification system. Each facet represents a specific physical property and is maintained in a left to right designation.

**1st facet** indicates a hollow or solid block. Hollow blocks are designated by the letter H and solid blocks by the letter S.



**2nd facet** indicates the minimum compressive strength based on an average of five units and calculated on the net area.

**3rd facet** describes the density (oven dry) and water absorption capacity of the concrete unit.

**4th facet** represent the maximum moisture content at time of shipment, expressed as a percentage of total absorption to the climatic relative humidity and the linear shrinkage properties of the block.

*Example:* H/15/A/M is a hollow unit with a strength of 15MPa (5 units), a density over 2000 kg/m<sup>3</sup>, a maximum water absorption of 175 kg/m<sup>3</sup>, and a specific moisture content at the time of shipment. Refer to Table 2 for symbols.

Hollow concrete masonry unit means a unit having a net area in any horizontal plane of less than 75% of its gross area.

Net area means the gross cross sectional area minus the area of voids (cellular spaces).

Solid concrete masonry unit means a unit having a net area in all horizontal planes of 75% or more of its gross area.

## Reference Publications

CAN3-A165.1 Series-13 CSA Standardds on Concrete Masonry Units

CAN3-A165 Series (CAN3-A165.1-04)

CSA

National Building Code of Canada

CSA