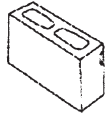
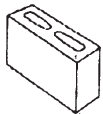
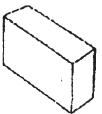
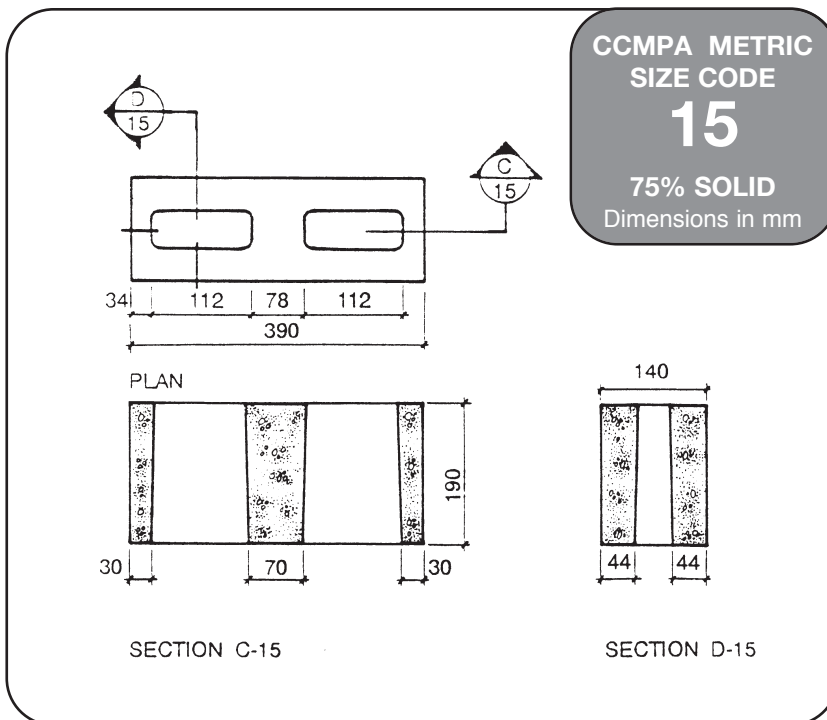
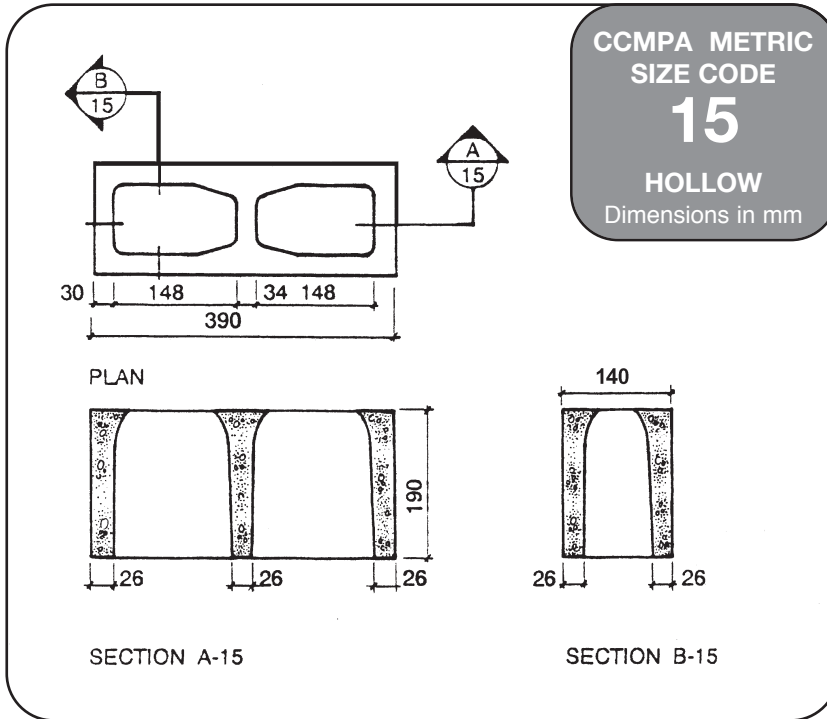


# Physical Properties

PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK			SIZE CODE <b>15</b>			
ACTUAL DIMENSIONS (mm)			STANDARD CONFIGURATION			
Width 140	Length 390	Height 190	NOTES*	HOLLOW	75% SOLID	SOLID
PROPERTIES						
<b>Dimensions (mm)</b>	Minimum Face Shell Thickness	1	26	44	N/A	
	Minimum Web Thickness	1	26	30	N/A	
	Equivalent Thickness	2	81	112	140	
<b>Area (mm<sup>2</sup>)</b>	Gross Area	3	5.46 x 10 <sup>4</sup>	5.46 x 10 <sup>4</sup>	5.46 x 10 <sup>4</sup>	
	Net Area	4	3.17 x 10 <sup>4</sup>	4.37 x 10 <sup>4</sup>	5.46 x 10 <sup>4</sup>	
	Core Area	5	1.145 x 10 <sup>4</sup>	5.45x 10 <sup>3</sup>	N/A	
<b>Volume (mm<sup>3</sup>)</b>	Gross Volume	6	10.374 x 10 <sup>6</sup>	10.374 x 10 <sup>6</sup>	10.374 x 10 <sup>6</sup>	
	Net Volume	7	6.017 x 10 <sup>6</sup>	8.299 x 10 <sup>6</sup>	10.374 x 10 <sup>6</sup>	
<b>Percent Solid (%)</b>	Net Volume/Gross Volume		58%	80%	100%	
<b>Typical Unit Mass (kg)</b>	CSA "A" - Type "A" Concrete	8	12.6	17.4	23.3	
	CSA "C" - Type "C" Concrete		11.3	15.6	19.5	
	CSA "D" - Type "D" Concrete		10.6	14.6	18.3	
<b>Typical Wall Mass (kg/m<sup>2</sup>) (with mortar)</b>	CSA "A" - Type "A" Concrete	8	170	235	315	
	CSA "C" - Type "C" Concrete		153	210	263	
	CSA "D" - Type "D" Concrete		144	198	248	
<b>Minimum Compressive Strength (Mpa)</b>	Based on Net Area	10	15.0	15.0	15.0	
	Based on Gross Area		8.7	12.0	15.0	
<b>Fire Performance Rating (Hours)</b>	Normal Weight - N.B.C.	9	1.1	2.0	2.9	
	Light Weight - N.B.C. -L <sub>2</sub> 20S		1.5	2.8	4+	
<b>Sound Properties</b>	Sound Transmission Class - (STC)	10				
	-CSA Type "A" Concrete		46	50	52	
	-CSA Type "C", "D" Concrete	43	47	50		
<b>Thermal Properties (m<sup>2</sup> °C/W)</b>	RSI Factors	11				
	-CSA Type "A" Concrete		.19	N/A	N/A	
	-CSA Type "C", "D" Concrete		.26	N/A	N/A	
<b>Moment of Inertia (mm<sup>4</sup>)</b>	Per Block I		74.07 x 10 <sup>6</sup>	86.86 x 10 <sup>6</sup>	89.18 x 10 <sup>6</sup>	
	Per Metre I <sub>m</sub>		189.9 x 10 <sup>6</sup>	222.7 x 10 <sup>6</sup>	228.7 x 10 <sup>6</sup>	
<b>Section Modulus (mm<sup>3</sup>)</b>	Per Block S		1.058 x 10 <sup>6</sup>	1.241 x 10 <sup>6</sup>	1.274 x 10 <sup>6</sup>	
	Per Block S <sub>m</sub>		2.713 x 10 <sup>6</sup>	3.182 x 10 <sup>6</sup>	3.267 x 10 <sup>6</sup>	

\* Information to be used in conjunction with explanatory notes on Page 4-11

# Physical Properties





# Physical Properties

## Explanatory Notes

NUMBER	DESCRIPTION
1	Due to manufacturing process, dimensions may exceed minimum requirements.
2	<p>Equivalent thickness is the net thickness of a unit, other than a solid unit, re-shaped to form a voidless unit having the same height and length dimensions (190mm x 390mm) and is a direct function of percentage solid content. Therefore, the overall width of a non-solid unit multiplied by its percentage solid content will arrive at its equivalent thickness ratio.</p> <p>The percentage solid content equals net volume (as defined in The Supplement to the National Building Code) divided by gross volume.</p> <p>e.g. Calculating Equivalent Thickness:            20cm Hollow Concrete Block            Percentage Solid 56% as per O.C.B.A. specification</p> <p>Equivalent Thickness = Actual Width x Percentage Solid</p> $= 190\text{mm} \times \frac{56}{100}$ <p>Equivalent Thickness = 106mm</p>
3	Gross Area, defined by the CSA-A165.1, is the area parallel to the bearing surface of the masonry unit by calculating the actual measured overall dimensions of the unit including the voids.
4	Net Area is the net cross-sectional area at mid-depth of the unit. This area can be calculated using actual Gross Area multiplied by percentage solid of unit.
5	Core Area is the measurement of the core areas taken at mid-height of unit.
6	Gross Volume, as defined in Supplement to the National Building Code is: "Equal to the actual length of the unit multiplied by the actual height of the unit multiplied by the actual thickness of the unit."
7	Net Volume, as defined in Supplement to the National Building Code is: "Determined by using a volume displacement method that is not influenced by the porous nature of the unit."
8	Refer to CCMPA Specifications for concrete density (kg/m <sup>3</sup> ). Typical Average Weight of Type "A" Concrete 2100 kg/m <sup>3</sup> Typical Average Weight of Type "C" Concrete 1750 kg/m <sup>3</sup> Typical Average Weight of Type "D" Concrete 1650 kg/m <sup>3</sup>
9	Fire Ratings are based on the Supplement to the National Building Code.
10	For more detailed information, refer to Section 7 – Sound Properties.
11	Refer to Section 6 – Thermal Properties, for detailed information.