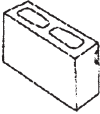
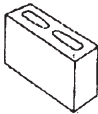
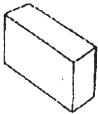
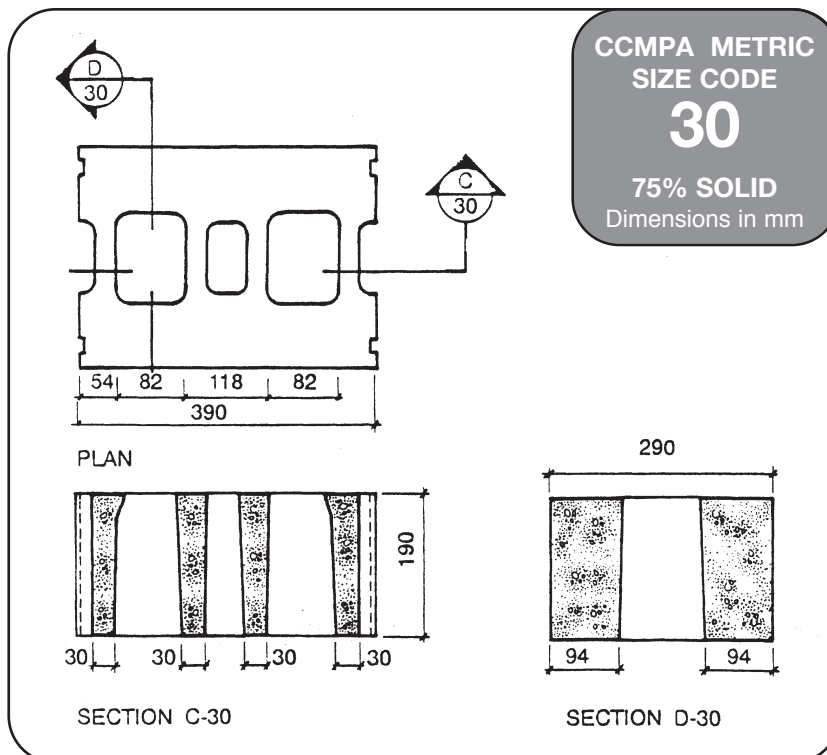
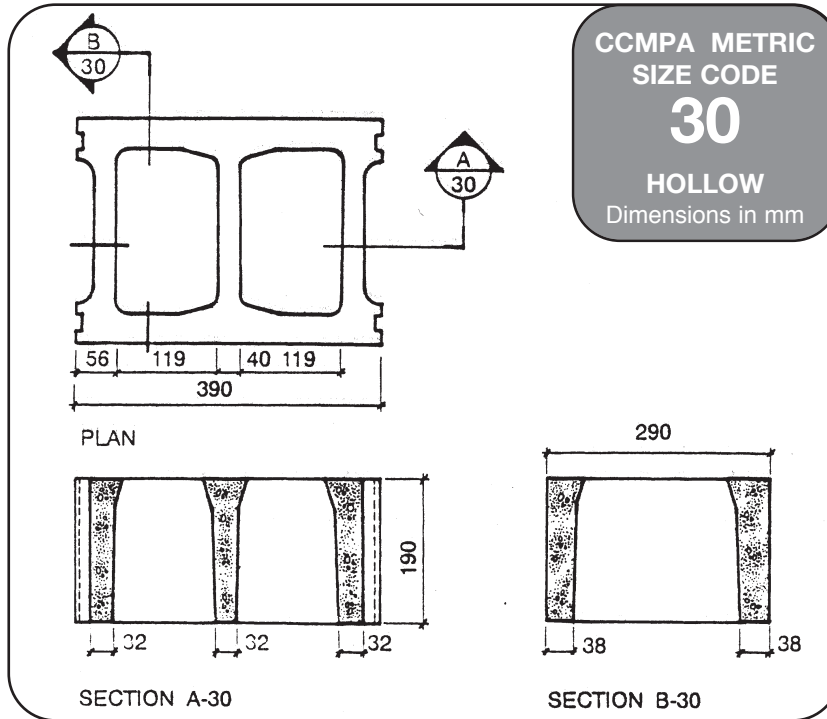


# Physical Properties

PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK			SIZE CODE 30			
ACTUAL DIMENSIONS (mm)			STANDARD CONFIGURATION			
Width 290	Length 390	Height 190	NOTES*	HOLLOW	75% SOLID	SOLID
PROPERTIES						
<b>Dimensions (mm)</b>	Minimum Face Shell Thickness	1	38	90	N/A	
	Minimum Web Thickness	1	32	30	N/A	
	Equivalent Thickness	2	148	227	290	
<b>Area (mm<sup>2</sup>)</b>	Gross Area	3	11.31 x 10 <sup>4</sup>	11.31 x 10 <sup>4</sup>	11.31 x 10 <sup>4</sup>	
	Net Area	4	5.77 x 10 <sup>4</sup>	8.82 x 10 <sup>4</sup>	11.31 x 10 <sup>4</sup>	
	Core Area	5	2.50 x 10 <sup>4</sup>	1.07 x 10 <sup>4</sup>	N/A	
<b>Volume (mm<sup>3</sup>)</b>	Gross Volume	6	21.489 x 10 <sup>6</sup>	21.489 x 10 <sup>6</sup>	21.489 x 10 <sup>6</sup>	
	Net Volume	7	10.96 x 10 <sup>6</sup>	16.76 x 10 <sup>6</sup>	21.49 x 10 <sup>6</sup>	
<b>Percent Solid (%)</b>	Net Volume/Gross Volume		51%	78%	100%	
<b>Typical Unit Mass (kg)</b>	CSA "A" - Type "A" Concrete	8	23.0	35.2	45.1	
	CSA "C" - Type "C" Concrete		19.2	29.3	37.6	
	CSA "D" - Type "D" Concrete		18.1	27.7	35.5	
<b>Typical Wall Mass (kg/m<sup>2</sup>) (with mortar)</b>	CSA "A" - Type "A" Concrete		310.6	475.0	609.0	
	CSA "C" - Type "C" Concrete		258.8	395.9	507.5	
	CSA "D" - Type "D" Concrete		244.0	373.2	478.5	
<b>Minimum Compressive Strength (Mpa)</b>	Based on Net Area		15.0	15.0	15.0	
	Based on Gross Area		7.6	11.7	15.0	
<b>Fire Performance Rating (Hours)</b>	Normal Weight - N.B.C.		3.2	4+	4+	
	Light Weight - N.B.C. -L <sub>2</sub> 20S		4+	4+	4+	
<b>Sound Properties</b>	Sound Transmission Class - (STC)					
	-CSA Type "A" Concrete		53	58	58	
	-CSA Type "C", "D" Concrete		50	56	58	
<b>Thermal Properties (m<sup>2</sup> °C/W)</b>	RSI Factors					
	-CSA Type "A" Concrete		.26	N/A	N/A	
	-CSA Type "C", "D" Concrete		.36	N/A	N/A	
<b>Moment of Inertia (mm<sup>4</sup>)</b>	Per Block I		570.4 x 10 <sup>6</sup>	771.0 x 10 <sup>6</sup>	792.6 x 10 <sup>6</sup>	
	Per Metre Im		1463 x 10 <sup>6</sup>	1977 x 10 <sup>6</sup>	2032 x 10 <sup>6</sup>	
<b>Section Modulus (mm<sup>3</sup>)</b>	Per Block S		3.934 x 10 <sup>6</sup>	5.317 x 10 <sup>6</sup>	5.466 x 10 <sup>6</sup>	
	Per Block Sm		10.09 x 10 <sup>6</sup>	13.63 x 10 <sup>6</sup>	14.02 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.