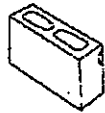
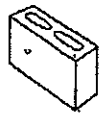
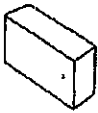
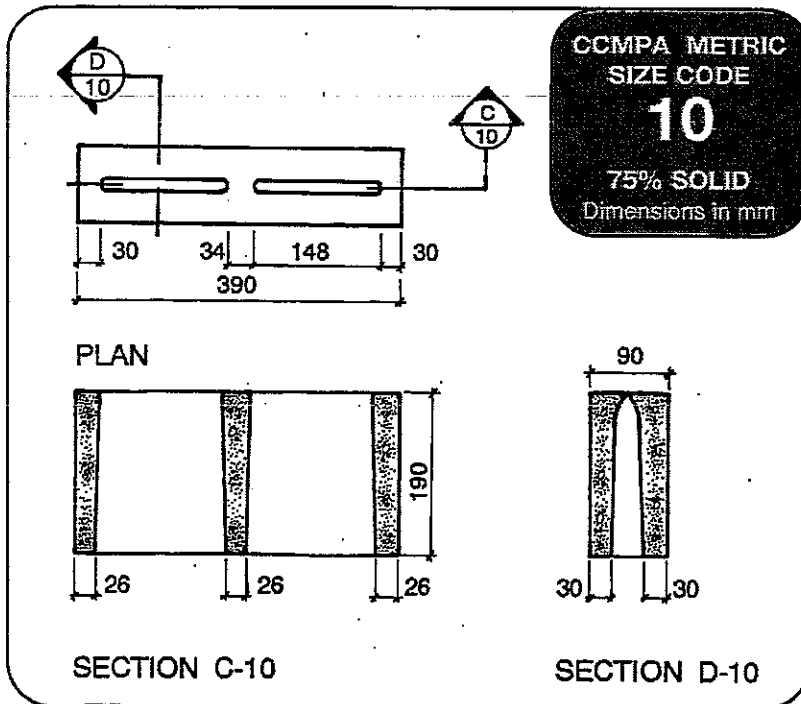
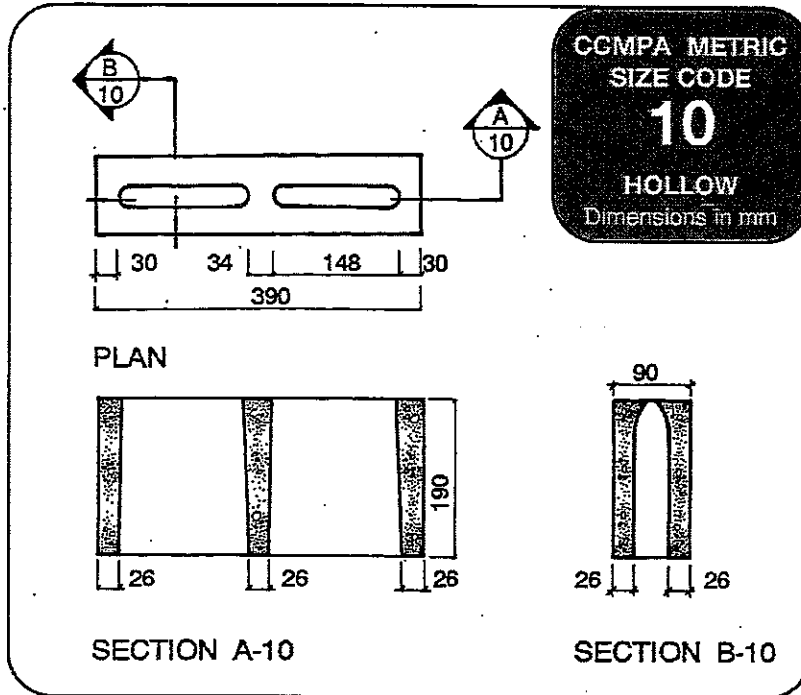
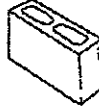
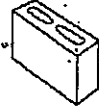
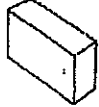
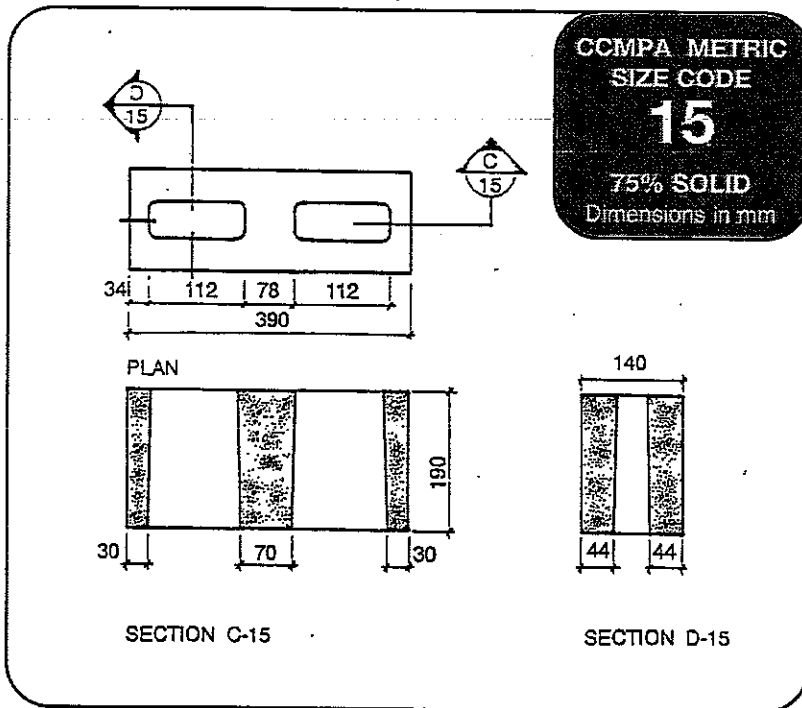
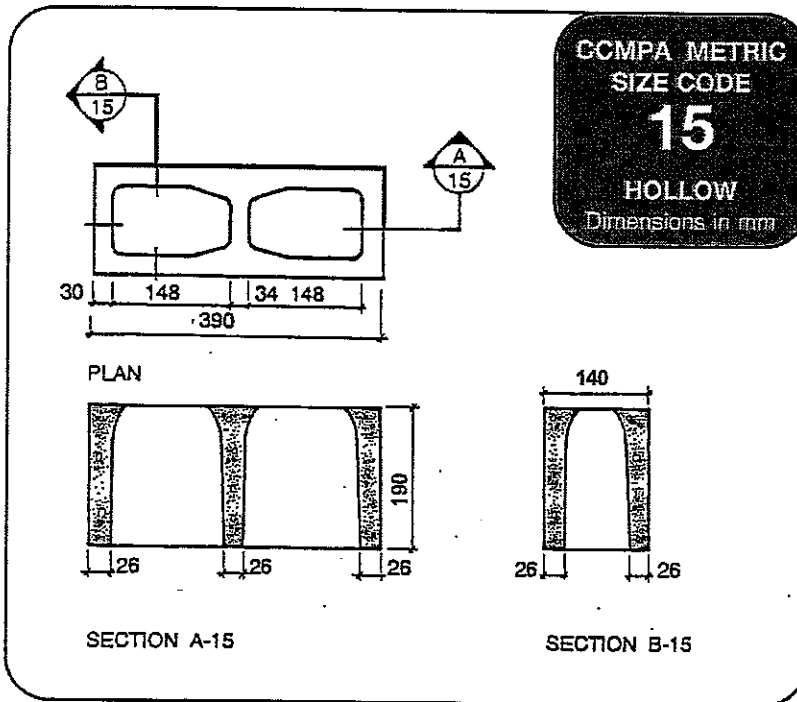
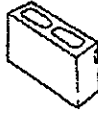
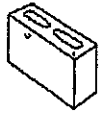
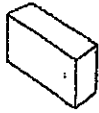


PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK				SIZE CODE <b>10</b>		
ACTUAL DIMENSIONS (mm)			NOTES	STANDARD CONFIGURATION		
Width 90	Length 390	Height 190		HOLLOW	75% SOLID	SOLID
PROPERTIES						
<b>Dimensions (mm)</b>	Minimum Face Shell Thickness	1	26	30	N/A	
	Minimum Web Thickness	1	26	26	N/A	
	Equivalent Thickness	2	66	74	90	
<b>Area (mm<sup>2</sup>)</b>	Gross Area	3	$3.51 \times 10^4$	$3.51 \times 10^4$	$3.51 \times 10^4$	
	Net Area	4	$2.56 \times 10^4$	$2.88 \times 10^4$	$3.51 \times 10^4$	
	Core Area	5	$4.75 \times 10^3$	$3.15 \times 10^3$	N/A	
<b>Volume (mm<sup>3</sup>)</b>	Gross Volume	6	$6.669 \times 10^6$	$6.669 \times 10^6$	$6.669 \times 10^6$	
	Net Volume	7	$4.868 \times 10^6$	$5.469 \times 10^6$	$6.669 \times 10^6$	
<b>Percent Solid (%)</b>	Net Volume/Gross Volume		73%	82%	100%	
<b>Typical Unit Mass (kg)</b>	CSA "A" - Type "A" Concrete	8	10.2	11.5	14.0	
	CSA "C" - Type "C" Concrete		8.5	9.7	11.7	
	CSA "D" - Type "D" Concrete		8.0	9.0	11.0	
<b>Typical Wall Mass (kg/m<sup>2</sup>) (with mortar)</b>	CSA "A" - Type "A" Concrete		138	155	189	
	CSA "C" - Type "C" Concrete		115	130	158	
	CSA "D" - Type "D" Concrete		109	122	149	
<b>Minimum Compressive Strength (Mpa)</b>	Based on Net Area		15.0	15.0	15.0	
	Based on Gross Area		10.95	12.3	15.0	
<b>Fire Performance Rating (hours)</b>	Normal Weight - N.B.C.	9	0.8	1.1	1.4	
	Light Weight - N.B.C. -L <sub>2</sub> 20S		1.1	1.3	1.8	
<b>Sound Properties</b>	Sound Transmission Class - (STC)	10				
	-CSA Type "A" Concrete		43	45	47	
	-CSA Type "C", "D" Concrete		40	42	45	
<b>Thermal Properties (m<sup>2</sup> °C/W)</b>	RSI Factors	11				
	-CSA Type "A" Concrete		.17	N/A	N/A	
	-CSA Type "C", "D" Concrete		.24	N/A	N/A	
<b>Moment of Inertia (mm<sup>4</sup>)</b>	Per Block I		$22.69 \times 10^6$	$23.25 \times 10^6$	$23.69 \times 10^6$	
	Per Metre Im		$58.18 \times 10^6$	$59.61 \times 10^6$	$60.75 \times 10^6$	
<b>Section Modulus (mm<sup>3</sup>)</b>	Per Block S		$0.504 \times 10^6$	$0.517 \times 10^6$	$0.527 \times 10^6$	
	Per Block Sm		$1.293 \times 10^6$	$1.324 \times 10^6$	$1.350 \times 10^6$	



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>	5.45 x 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 -CSA Type "C", "D" Concrete		46 43	50 47	52 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 Im		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 Sm		2.713 x 10 <sup>6</sup>	3.182 x 10 <sup>6</sup>	3.267 x 10 <sup>6</sup>	

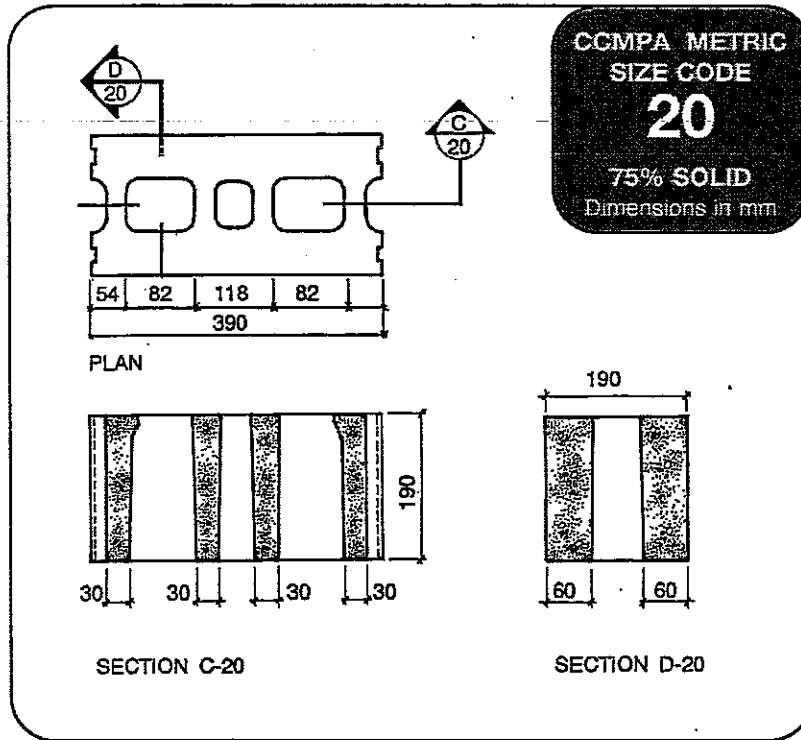
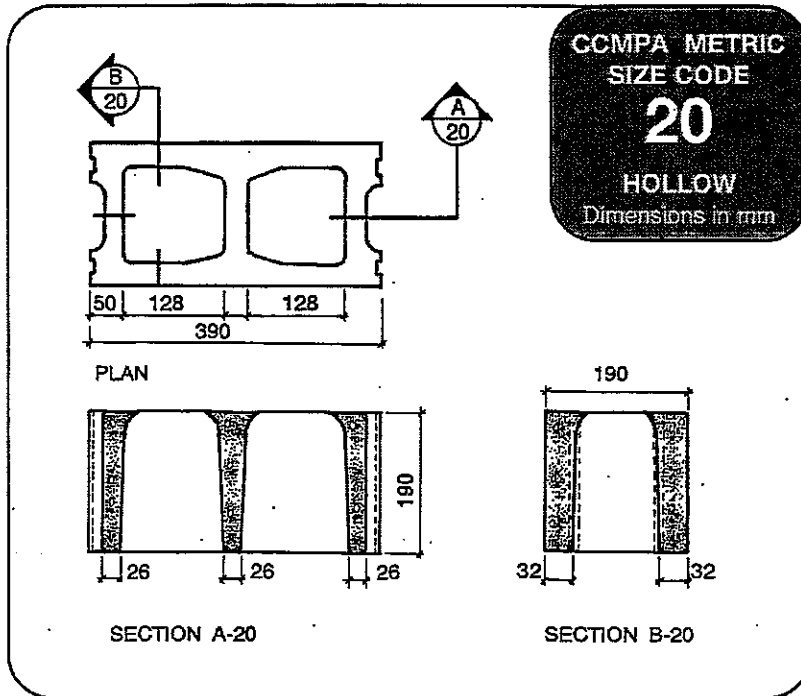


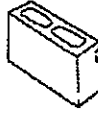
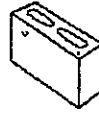
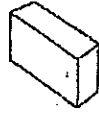
PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK				SIZE CODE <b>20</b>		
ACTUAL DIMENSIONS (mm)			NOTES*	STANDARD CONFIGURATION		
Width 190	Length 390	Height 190		HOLLOW	75% SOLID	SOLID
PROPERTIES						
<b>Dimensions (mm)</b>	Minimum Face Shell Thickness	1	32	60	N/A	
	Minimum Web Thickness	1	26	30	N/A	
	Equivalent Thickness	2	106	148	190	
<b>Area (mm<sup>2</sup>)</b>	Gross Area	3	7.41 x 10 <sup>4</sup>	7.41 x 10 <sup>4</sup>	7.41 x 10 <sup>4</sup>	
	Net Area	4	4.15 x 10 <sup>4</sup>	5.78 x 10 <sup>4</sup>	7.41 x 10 <sup>4</sup>	
	Core Area	5	1.53 x 10 <sup>4</sup>	6.75 x 10 <sup>3</sup>	N/A	
<b>Volume (mm<sup>3</sup>)</b>	Gross Volume	6	14.079 x 10 <sup>6</sup>	14.079 x 10 <sup>6</sup>	14.079 x 10 <sup>6</sup>	
	Net Volume	7	7.88 x 10 <sup>6</sup>	10.97 x 10 <sup>6</sup>	14.08 x 10 <sup>6</sup>	
<b>Percent Solid (%)</b>	Net Volume/Gross Volume		56%	78%	100%	
<b>Typical Unit Mass (kg)</b>	CSA "A" - Type "A" Concrete	8	16.5	23.0	29.6	
	CSA "C" - Type "C" Concrete		13.8	19.2	24.6	
	CSA "D" - Type "D" Concrete		13.2	18.4	23.6	
<b>Typical Wall Mass (kg/m<sup>2</sup>) (with mortar)</b>	CSA "A" - Type "A" Concrete		223.0	311.0	399.0	
	CSA "C" - Type "C" Concrete		186.2	259.4	332.5	
	CSA "D" - Type "D" Concrete		175.6	244.5	313.5	
<b>Minimum Compressive Strength (Mpa)</b>	Based on Net Area		15.0	15.0	15.0	
	Based on Gross Area		8.4	11.7	15.0	
<b>Fire Performance Rating (Hours)</b>	Normal Weight - N.B.C.	9	1.8	3.2	4+	
	Light Weight - N.B.C. -L <sub>2</sub> 20S		2.5	4+	4+	
<b>Sound Properties</b>	Sound Transmission Class - (STC)	10				
	-CSA Type "A" Concrete		50	53	56	
	-CSA Type "C", "D" Concrete		46	51	53	
<b>Thermal Properties (m<sup>2</sup>°C/W)</b>	RSI Factors	11				
	-CSA Type "A" Concrete		.21	N/A	N/A	
	-CSA Type "C", "D" Concrete		.30	N/A	N/A	
<b>Moment of Inertia (mm<sup>4</sup>)</b>	Per Block I		194.2 x 10 <sup>6</sup>	217.1 x 10 <sup>6</sup>	222.9 x 10 <sup>6</sup>	
	Per Metre Im		498.0 x 10 <sup>6</sup>	556.6 x 10 <sup>6</sup>	571.6 x 10 <sup>6</sup>	
<b>Section Modulus (mm<sup>3</sup>)</b>	Per Block S		2.045 x 10 <sup>6</sup>	2.285 x 10 <sup>6</sup>	2.347 x 10 <sup>6</sup>	
	Per Block Sm		5.242 x 10 <sup>6</sup>	5.859 x 10 <sup>6</sup>	6.017 x 10 <sup>6</sup>	

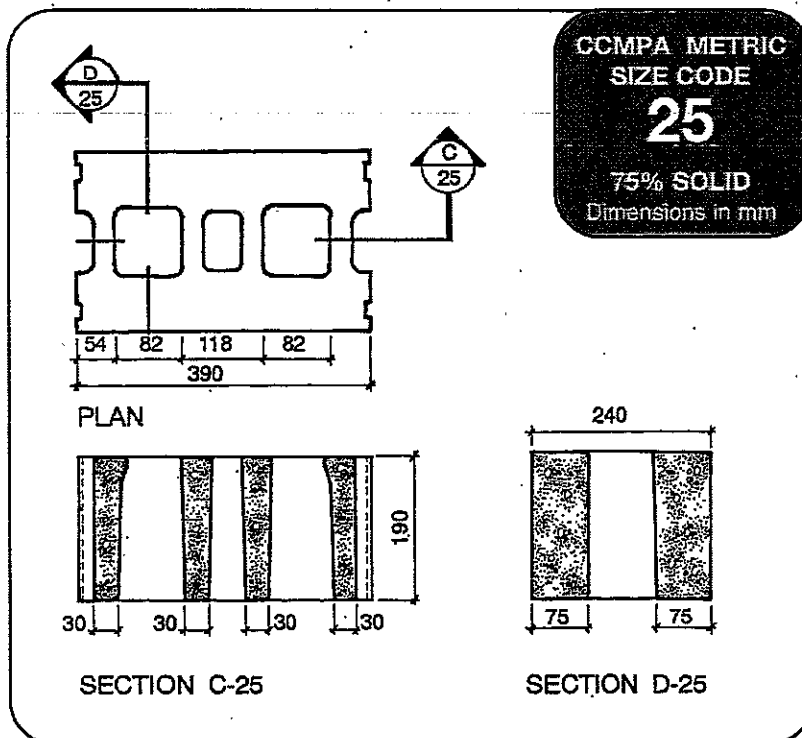
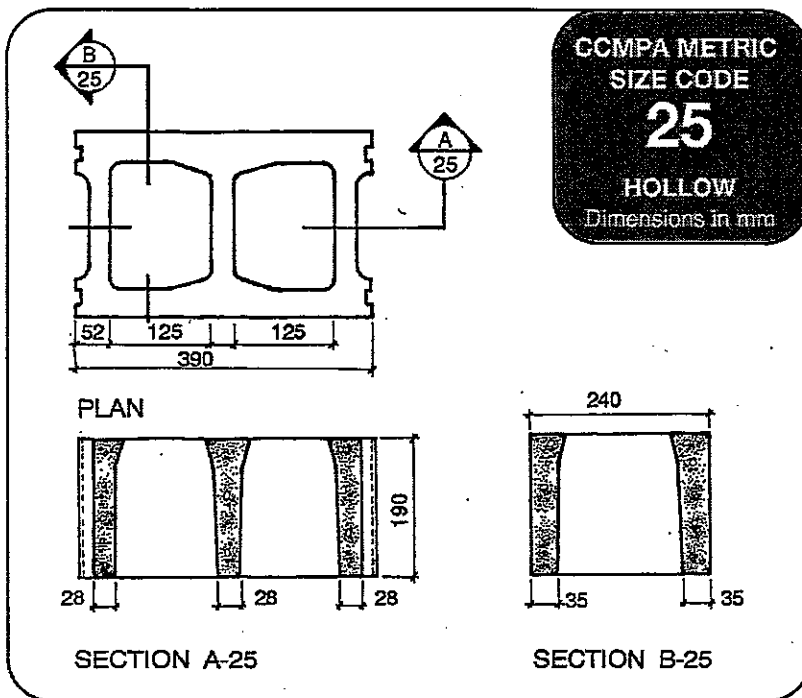


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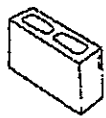
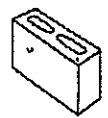
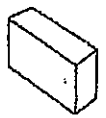
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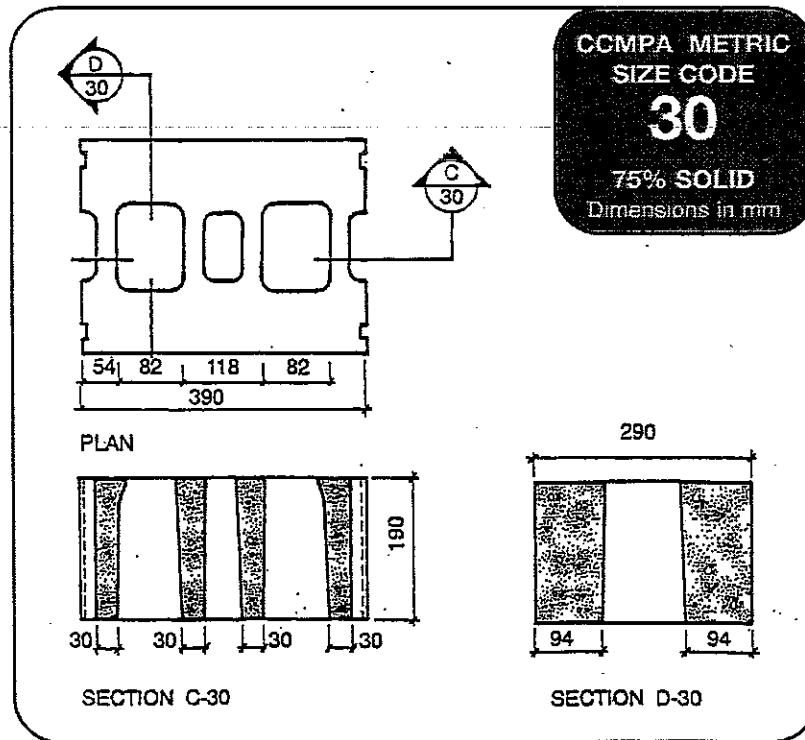
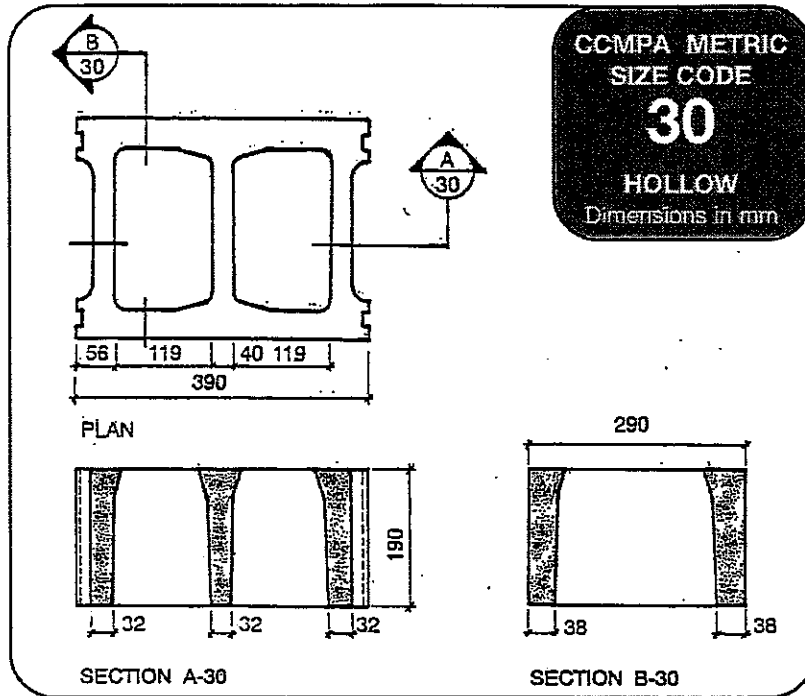


PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK				SIZE CODE <b>25</b>		
ACTUAL DIMENSIONS (mm)			STANDARD CONFIGURATION			
Width 240	Length 390	Height 190	NOTES*	HOLLOW	75% SOLID	SOLID
PROPERTIES						
<b>Dimensions (mm)</b>	Minimum Face Shell Thickness	1	35	75	N/A	
	Minimum Web Thickness	1	28	30	N/A	
	Equivalent Thickness	2	127	187	240	
<b>Area (mm<sup>2</sup>)</b>	Gross Area	3	9.36 x 10 <sup>4</sup>	9.36 x 10 <sup>4</sup>	9.36 x 10 <sup>4</sup>	
	Net Area	4	4.96 x 10 <sup>4</sup>	7.30 x 10 <sup>4</sup>	9.36 x 10 <sup>4</sup>	
	Core Area	5	2.06 x 10 <sup>4</sup>	8.80 x 10 <sup>3</sup>	N/A	
<b>Volume (mm<sup>3</sup>)</b>	Gross Volume	6	17.784 x 10 <sup>6</sup>	17.784 x 10 <sup>6</sup>	17.784 x 10 <sup>6</sup>	
	Net Volume	7	9.43 x 10 <sup>6</sup>	13.87 x 10 <sup>6</sup>	17.78 x 10 <sup>6</sup>	
<b>Percent Solid (%)</b>	Net Volume/Gross Volume		53%	78%	100%	
<b>Typical Unit Mass (kg)</b>	CSA "A" - Type "A" Concrete	8	20.6	30.3	38.9	
	CSA "C" - Type "C" Concrete		17.2	25.3	32.4	
	CSA "D" - Type "D" Concrete		16.2	23.8	30.6	
<b>Typical Wall Mass (kg/m<sup>2</sup>) (with mortar)</b>	CSA "A" - Type "A" Concrete		278.3	409.5	525.0	
	CSA "C" - Type "C" Concrete		231.9	341.3	437.5	
	CSA "D" - Type "D" Concrete		218.4	321.8	412.0	
<b>Minimum Compressive Strength (Mpa)</b>	Based on Net Area		15.0	15.0	15.0	
	Based on Gross Area		7.9	11.7	15.0	
<b>Fire Performance Rating (Hours)</b>	Normal Weight - N.B.C.	9	2.4	4+	4+	
	Light Weight - N.B.C. -L <sub>2</sub> 20S		3.5	4+	4+	
<b>Sound Properties</b>	Sound Transmission Class - (STC)	10				
	-CSA Type "A" Concrete		51	56	58	
	-CSA Type "C", "D" Concrete		49	53	56	
<b>Thermal Properties (m<sup>2</sup> °C/W)</b>	RSI Factors	11				
	-CSA Type "A" Concrete		.24	N/A	N/A	
	-CSA Type "C", "D" Concrete		.33	N/A	N/A	
<b>Moment of Inertia (mm<sup>4</sup>)</b>	Per Block I		334.9 x 10 <sup>6</sup>	437.0 x 10 <sup>6</sup>	449.3 x 10 <sup>6</sup>	
	Per Metre Im		858.8 x 10 <sup>6</sup>	1131 x 10 <sup>6</sup>	1152 x 10 <sup>6</sup>	
<b>Section Modulus (mm<sup>3</sup>)</b>	Per Block S		2.791 x 10 <sup>6</sup>	3.642 x 10 <sup>6</sup>	3.744 x 10 <sup>6</sup>	
	Per Block Sm		7.156 x 10 <sup>6</sup>	9.338 x 10 <sup>6</sup>	9.600 x 10 <sup>6</sup>	





PHYSICAL PROPERTIES OF STANDARD METRIC SIZE BLOCK				SIZE CODE <b>30</b>		
ACTUAL DIMENSIONS (mm)			NOTES*	STANDARD CONFIGURATION		
Width 290	Length 390	Height 190		HOLLOW	75% SOLID	SOLID
PROPERTIES			1			
<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 I <sub>m</sub>		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 S <sub>m</sub>		10.09 x 10 <sup>6</sup>	13.63 x 10 <sup>6</sup>	14.02 x 10 <sup>6</sup>	



Explanatory Notes

NUMBER	DESCRIPTION
<b>1</b>	Due to manufacturing process, dimensions may exceed minimum requirements.
<b>2</b>	<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 CCMPA specification</p> <p>Equivalent Thickness = Actual Width x Percentage Solid</p> $= 190\text{mm} \times \frac{56}{100}$ <p>Equivalent Thickness = 106mm</p>
<b>3</b>	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.
<b>4</b>	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.
<b>5</b>	Core Area is the measurement of the core areas taken at mid-height of unit.
<b>6</b>	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."
<b>7</b>	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."
<b>8</b>	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>
<b>9</b>	Fire Ratings are based on the Supplement to the National Building Code.
<b>10</b>	For more detailed information, refer to Section 7 – Sound Properties.
<b>11</b>	Refer to Section 6 – Thermal Properties, for detailed information.

