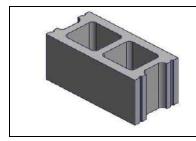


## PHYSICAL PROPERTIES OF STANDARD 20cm CMU



ACTUAL DIMENSIONS (mm)							
	STD	HALF	HALF HIGH				
Width:	190	190	190				
Height:	190	190	90				
Length:	390	190	390				

STANDARD METRIC CONFIGURATIONS					HOLLOW
CSA Concrete Type Designation		"Four-Facet" System		1	H/15/ A,B,C,D /O or M
	(mm)	Min. Face Shell Thickness			32
Dimensions		Min. Web Thickness			26
		Equivalent Thickness			106
<b>A</b>	(mm²)	Gross Area		2	74100
Area		Net Area		3	41474
Volume	(mm³)	Gross Volume		4	14.079 x 10 <sup>6</sup>
Volume		Net Volume		5	7.88 x 10 <sup>6</sup>
Percent Solid	(%)	Net Volume/Gross Volume			56%
		Normal Weight	CSA "A"	6	17.5
Unit Mass	(kg)	Medium Weight / ASTRO	CSA "B"	7	15.0
Offit ividss	(NB)	Semi-Light Weight	CSA "C"	8	13.4
		Light Weight	CSA "D"		
Compressive Strength (minimum)	(MPa)	Average Net Area		9	15.0
	(1 / 2)	Normal Weight	CSA "A"	10	250
Woll Mass		Medium Weight / ASTRO	CSA "B"		212
Wall Mass	(Kg/III )	Semi-Light Weight	CSA "C"		192
		Light Weight	CSA "D"		
	NDC	Normal Weight / Medium Weight (Astro)	CSA "A" & "B"	11	1.5
Fire Performance Rating (hours)	NBC	Semi-Light Weight / Light Weight	CSA "C & D"		2.0
<del>-</del>	ULC	ULC Fire Rated Block	CSA "A" & "B"		2.0
	ULC	(ULC Classification D-2)	C3A A & B		2.0
Sound Transmission Class Rating for	(STC)	Normal Weight / Medium Weight (Astro)	CSA "A" & "B"	12	50
Concrete Masonry Walls		Semi-Light Weight / Light Weight	CSA "C" & "D"		46

NOTE: Semi light weight CSA "C" and Light weight CSA "D" is not a Basalite stock product. Product manufactured only upon special order.

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## PHYSICAL PROPERTIES OF STANDARD 20cm CMU

## **EXPLANATORY NOTES:**

Physical Propoerties of Normal Metric Concretre Sheets to be used in conjunction with the unit data sheets

## **NOTE: COMMENT**

- 1. The four-facet system of description is in accordance with CSA.A165.1-14 (reaffirmed 2024). See below Notes 6, 7, 8 and 9 regarding compressive strength and concrete densities.
- 2. Gross area means the area parallel to the bearing surface of the unit including voids. (1)
- 3. Net area means the gross area cross sectional area minus the area of the voids. (1)
- 4. Gross volume of the unit is equal to LxHxW using actual dimensions. (2)
- 5. Net volume of the unit is the gross volume less the volume of all core spaces and voids created by set backs and indentations in the outer surface of the unit. (2)
- 6. Normal weight units ("A") are defined as having an oven dry density of over 2000 kg/m<sup>3</sup>. The aggregate incorporated is 100% normal weight sand and gravel. In these Tables a density of 2100 kg/m<sup>3</sup> has been used. (1)
- 7. Medium weight/Astro units ("B") are defined as having an oven dry density of between 1800-2000 kg/m³ (1). The units are produced by using a combination of lightweight aggregate and normal weight aggregate. A density of 1800 kg/m³ has been used in these tables.
- 8. Light weight Units ("D") and Semi-light weight units ("C") are made with type  $L_220S$  concrete where fine portion of aggregate is sand and low density aggregates in which the sand does not exceed 20% of the total volume of all aggregates in the concrete.(3). Semi-light weight units ("C") have an oven dry density of 1700-1800 kg/m<sup>3</sup> and Light weight units ("D") have an oven dry density of less than 1700 kg/m<sup>3</sup>.(1). In these tables a density of 1700 kg/m<sup>3</sup> has been used. (1).
- 9. Minimum compressive strength requirements are based on net area. (1)
- 10. Wall mass totals are estimated and do not include an allowance for grout or reinforcing steel, vertical or horizontal.
- 11. Fire performance ratings are based on the National Building Code of Canada. (4)

For ULC-rated blocks, ratings are determined according to ULC-S120 Preliminary Standards for Concrete Masonry Units (6). Blocks with a UL 2-hour rating are intended for use in UL Design No. U905, which provides a 2-hour fire resistance classification for walls and partitions.

12. S.T.C. data is taken from CCMPA Table 7.1 Sound Transmission Ratings for Concrete Block Walls. (7)

Note: Semi light-wt. Category "C" and Light -wt. Category "D" is not a Basalite Stock Product and is only available upon special order.

- 1) CSA A165-14 (reaffirmed 2024) and Canadian Concrete Masonry Assiciation (CCMPA) Metric Technical Manual Physical Properties
- 2) CSA A165-14 (reaffirmed 2024) and Canadian Concrete Masonry Assiciation (CCMPA) Metric Technical Manual Physical Properties
- 3) National Building Code of Canada 2020 (NBC) Volume 1, Division B, Types of Concrete
- 4) National Building Code of Canada 2020 (NBC) Volume 1, Division B, Table D-2.1.1
- 4) National Concrete Masonry Association NCMA TEK 13-1C
- 5) British Columbia Building Code (BBC) 2018
- 6) ULC- S120 Preliminary Standards for Concrete Masonry Units
- 7) Canadian Concrete Masonry Assiciation (CCMPA) Sound Properties and Design Details

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