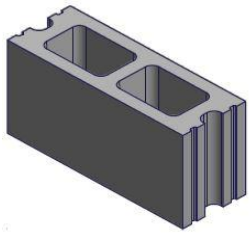
BASALITE Concrete Products, ULC

PHYSICAL PROPERTIES OF STANDARD 15cm CMU



ACTUAL DIMENSIONS (mm)			
	STD	**HALF**	**HALF HIGH**
Width:	140	140	140
Height:	190	190	90
Length:	390	190	390

STANDARD METRIC CONFIGURATIONS			NOTES	HOLLOW
CSA Concrete Type Designation		"Four-Facet" System	*1*	H/15/ A,B,C,D /O or M
Dimensions (mm)		Min. Face Shell Thickness		25
		Min. Web Thickness		25
		Equivalent Thickness		81
Area (mm^2)		Gross Area	*2*	54600
		Net Area	*3*	31668
Volume (mm^3)		Gross Volume	*4*	10.374×10^6
		Net Volume	*5*	6.017×10^6
Percent Solid (%)		Net Volume/Gross Volume		58%
Unit Mass (kg)		Normal Weight	CSA "A"	*6*	14.0
		Medium Weight / ASTRO	CSA "B"	*7*	12.0
		Semi-Light Weight	CSA "C"	*8*	10.2
		Light Weight	CSA "D"		
Compressive Strength (minimum) (MPa)		Average Net Area		*9*	15.0
Wall Mass (kg/m^2)		Normal Weight	CSA "A"	*10*	200
		Medium Weight / ASTRO	CSA "B"		175
		Semi-Light Weight	CSA "C"		152
		Light Weight	CSA "D"		
Fire Performance Rating (hours) (NBC)		Normal Weight / Medium Weight (Astro)	CSA "A" & "B"	*11*	1.0
		Semi-Light Weight / Light Weight	CSA "C & D"		1.0
Sound Transmission Class Rating for Concrete Masonry Walls (STC)		Normal Weight / Medium Weight (Astro)	CSA "A" & "B"	*12*	46
		Semi-Light Weight / Light Weight	CSA "C" & "D"		43

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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NOTES:

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.

3. Net area means the gross area cross sectional area minus the area of the voids.

4. Gross volume of the unit is equal to LxHxW using actual dimensions.

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.

6. Normal weight units (“A”) are defined as having an oven dry density of over 2000 kg/m^3. The aggregate incorporated is 100% normal weight sand and gravel. In these Tables a density of 2100 kg/m^3 has been used.

7. Medium weight/Astro units (“B”) are defined as having an oven dry density of between 1800-2000 kg/m^3. The units are produced by using a combination of lightweight aggregate and normal weight aggregate. A density of 1800 kg/m^3 has been used in these tables.

8. LIght weight Units ("D") and Semi-light weight units (“C”) are made with type $L_2$20S 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. Semi-light weight units (“C”) have an oven dry density of 1700-1800 kg/m^3 and Light weight units (“D”) have an oven dry density of less than 1700 kg/m^3. In these tables a density of 1700 kg/m^3 has been used.

9. Minimum compressive strength requirements are based on net area.

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. 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.

Reference Standards:

Canadian Standard Association: CSA A165-14 (reaffirmed 2024)
Canadian Concrete Masonry Assiciation: CCMPA - Metric Technical Manual: Physical Properties
National Building Code of Canada 2020: Volume 1, Division B, Appendix D Fire Performance Ratings
Canadian Concrete Masonry Assiciation: (CCMPA) - Sound Properties and Design Details
Underwriter's Laboratories of Canada: ULC- S120 - Preliminary Standards for Concrete Masonry Units
National Concrete Masonry Association - NCMA TEK 13-1C