



Canadian Concrete Masonry Producers' Association

**CSA 165.1 Specifications &
General Specifications Notes**

CCMPA SPECIFICATIONS

All concrete masonry units are manufactured to CCMPA and C.S.A. Standard CAN3-A165.1 requirements. This Standard sets forth the required physical properties for concrete masonry units which are shown in the table below.

TABLE 9.0 - CCMPA SPECIFICATIONS				
FACET	SYMBOL	PHYSICAL PROPERTIES		NOTES
FIRST	H	HOLLOW		1.0
	S	SOLID (AS DEFINED)		1.0
	Sc	SOLID (WITHOUT CORES)		3.0
SECOND		MINIMUM MPa COMPRESSIVE STRENGTH		
		AVERAGE OF 3 UNITS	UNIT MINIMUM	
	15	15	12.8	1.0
	20	20	17.0	3.0
	30	30	25.5	3.0
THIRD		CONCRETE DENSITY (kg/m³)	ABSORPTION MAXIMUM (kg/m³)	
	A	GREATER THAN 2000	175	1.0
	B	1800 - 2000	200	2.0
	C	1700 - 1800	225	1.0
	D	LESS THAN 1700	300	3.0
	N	NO LIMITS	NO LIMITS	
FOURTH		LINEAR SHRINKAGE	MOISTURE CONTENT MAXIMUM AS % OF ABSORPTION MAXIMUM	
			RH > 75%	RH < 75%
	M	LESS THEN 0.03%	45	40
		0.03% - 0.045%	40	35
	GREATER THAN 0.045%	35	30	
	O	NO LIMITS	NO LIMITS	

CCMPA SPECIFICATIONS COMMENTARY

Designers should take note that all facet combinations are not normally produced. However, a wide selection of product is commonly available from all Members, thereby ensuring that the majority of technical design challenges can be immediately satisfied with readily available material.

This specification format however, does not address the other familiar block properties such as fire resistance ratings, thermal resistance, sound transmission classifications and unit size. For this information, one must refer to the specific sections within this manual.

This specification identification reference is known as the "Four Facet" system. Each facet is referred to by either a letter or number, never by a combination of two or more symbols per facet and each facet is separated by a slash. e.g. H/15/A/M refers to Hollow 15 MPa Normal Weight block with known moisture content. Unit size distinction is generally placed on the drawings, i.e. floor plan(s) and/or wall section(s).

Explanation

The specification facet breakdown is as follows:

FIRST FACET

This facet identifies the percentage content of the unit. The symbols H, S and Sf indicate less than 75%, greater than 75% but less than 100% and 100% solid content respectively. This percentage is determined the net cross sectional area as a percentage of the gross cross sectional area of the unit.

SECOND FACET

The concrete material strength is shown in this facet. The metric term "MPa" is an absolute unit of measurement, however for engineering purposes this measurement correlates to kN/mm². Therefore 15MPa equals 15 kN/mm². The specified strength of the unit is based on test results of three units with a minimum strength as noted.

THIRD FACET

Reference to oven dry concrete density (kg/m³) in addition to the allowable absorption maximum as a percentage of concrete density. The aggregates that are used in the manufacturing process of concrete block are siliceous gravel, limestone and expanded slag.

FOURTH FACET

This facet represents the maximum moisture content at time of delivery to the job site expressed as a percentage of actual absorption as it relates to climactic relative humidity and linear shrinkage of the concrete unit.