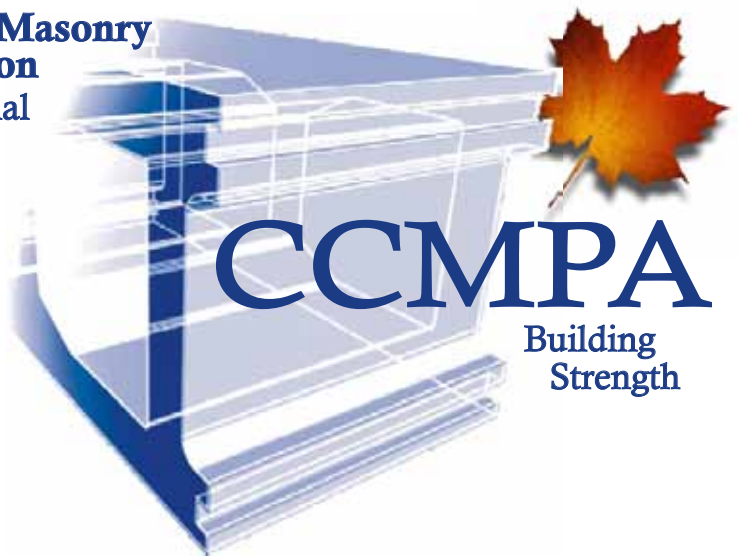
Canadian Concrete Masonry Producers Association
Region 6 of the National Concrete Masonry Association



Metric Technical Manual

SIXTH EDITION

Chapters 3, 4, 5 and 5A Updated April 2013

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Introduction

CCMPA Statement

The Canadian Concrete Masonry Producers Association (CCMPA) is a non-profit association whose mission is to support and advance the common interests of its members in the research, manufacture, marketing, and application of concrete masonry products and structures. The CCMPA represents the producers of concrete masonry products in Canada. Our member firms are engaged in the manufacture of concrete block and concrete brick masonry units used for loadbearing and nonloadbearing applications, and as veneers. The CCMPA represents Canadian interests within the National Concrete Masonry Association, a U.S.-based international association of concrete masonry producers.

The CCMPA supports the educational efforts of Canadian universities and other educational institutions, and the education of the masonry design professional, practitioner and student, both formally and informally. The CCMPA is intimately involved in the development and maintenance of CSA masonry and masonry-related standards. These standards serve as the basis for manufacturing and specifying concrete masonry materials and products, product and assembly testing, and the structural design and construction of masonry elements. The CCMPA continually develops and disseminates information and design tools needed by designers to deliver state-of-the-art, safe and serviceable, cost-effective masonry elements and structures. As part of this continuing commitment to education, the CCMPA is pleased to sponsor, update, and publish this Manual.

The Metric Technical Manual

This is the Six Edition of the Metric Technical Manual, previously published by the Ontario Concrete Block Association as the “OCBA Metric Technical Manual”.

Changes in Building Codes and Standards, developments in building design and construction, demonstrated performance in the field, and modern research have led to appropriate amendments, deletions, and additions.

The Manual is intended as a working tool to be used in conjunction with the applicable Building Codes and Standards. The various references herein do not duplicate or replace these standards and the applicable Building Codes. Therefore, it is recommended that the user of this Manual obtain copies of these standards developed and published by the Canadian Standards Association (www.csa.ca), and by ASTM International (www.astm.org), as applicable, and copies of all applicable Building Codes for the jurisdiction considered.

The Metric Technical Manual - Disclaimer

The material included in this document is intended for the use of design professionals who are competent to evaluate the significance and limitations of its contents and recommendations, and able to accept responsibility for its application. The Canadian Concrete Masonry Producers Association disclaims any and all responsibility for the accuracy and completeness of any of the material included in the Manual, fitness for any particular purpose, and for the applications of any stated principles.

Introduction

PROPERTY MEASURED	UNIT USED	SYMBOL	IMPERIAL EQUIVALENT
Length	metre	m	1.094 yds.
Mass	kilogram	kg	2.205 lbs.
	tonne	t	2205 lbs.
Volume	cubic metre	m^3	1.308 cu. yds.
Pressure	pascal	Pa	See Below
Heat Flow Rate (Power)	watt	W	See Below
Temperature	degrees celsius	o^C	N.A.
	degrees kelvin	o^K	N.A.
Thermal Resistance		RSI	See Below

PREFIXES	SYMBOL	MEANING	FACTOR BY WHICH METRIC UNIT IS MULTIPLIED
mega	M	one million	1 000 000.
kilo	k	one thousand	1 000.
milli	m	one thousandth of a	0.001
micro	μ	one millionth of a	0.000 001

CONVERSION FACTORS

IMPERIAL	TO	METRIC	MULTIPLY BY A FACTOR OF
inch		millimetre	25.4
p.s.i.		megapascal	0.006 895
lb/cu. ft.		kilograms per cubic metre	16.018
lb		kilograms	0.453 6
lb/sq. ft.		kilograms per square metre	4.882
sq. ft.		square metres	0.093
R (thermal)		RSI	0.176

For Conversion to Imperial Divide Metric Value by Above Factor