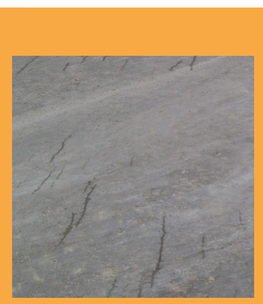
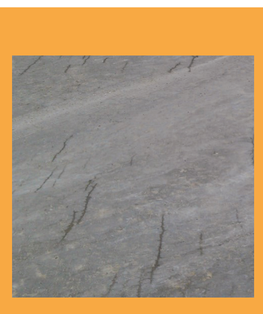
MASTER® BUILDERS SOLUTIONS

MasterFiber® Selection Guide

SPECIAL CONDITIONS	USAGE	STRUCTURE TYPE	REPLACES	MASTERFIBER PRODUCT
• Adverse ambient conditions (ex: hot, dry, windy)	 • Reduces plastic shrinkage cracking	• Slab-on-ground • Driveways • Paving	N/A	**Monofilament** M 35, M 70, M 100 **M 35:** 0.5 - 0.75 lb/yd³ (0.3 - 0.5 kg/m³) **M 70:** 0.75 - 1.5 lb/yd³ (0.4 - 0.9 kg/m³) **M 100:** 0.5 lb/yd³ (0.3 kg/m³) • Provides built-in protection
• Adverse ambient conditions (ex: hot, dry, windy)	 • Holds cracks tight • Reduces plastic shrinkage cracking	• Residential slab-on-ground • Driveways and sidewalks • Basement and garage slabs • Ultra-thin whitetopping • Topping slabs	 • Light gauge welded-wire reinforcement (WWR) 6x6 W1.4xW1.4 152x152-MW9.1xMW9.1	**Fibrillated** F 70, F 100 1.5 lb/yd³ (0.9 kg/m³) • Saves the contractor time • Improves jobsite safety • Ensures reinforcement is in the correct location
N/A	 • Holds cracks tight	• Slab-on-ground • Composite metal deck • Warehouse floors • Pavement • Whitetopping & overlays • Utility Precast	 • #3, #4 rebar 10 mm, 13 mm rebar • WWR	**MacroFiber** MAC Matrix, MAC 360 FF, MAC 100 Plus, MAC 2200 CB* 3 - 15 lb/yd³ (1.8 - 9.0 kg/m³) • Increases post-crack load-carrying performance • Increases ductility, energy absorption and impact resistance • Improves jobsite safety and saves time * Minimum dosage of 2.5 lb/yd³ (1.5 kg/m³)

MasterFiber MAC Matrix, MAC 360 FF, MAC 100 Plus

Fiber dosage for replacing WWR for slab-on-ground, kg/m³

Slab thickness (mm)	Concrete Compressive strength ((MPa)	152 x 152				102 x 102			
		MW13.0xMW13.0 (8/8)	MW13.3xMW13.3	MW18.7xMW18.7 (6/6)	MW25.8xMW25.8 (4/4)	MW9.1xMW9.1 (10/10)	MW13.0xMW13.0 (8/8)	MW18.7xMW18.7 (6/6)	MW25.8xMW25.8 (4/4)
100	20	1.8			2.8	1.8	1.9	3.1	NA
	25				2.4		1.8	2.7	
	30				2.1		1.8	2.4	
125	20				2			2.3	3.5
	25				1.8			2	3
	30				1.8			1.8	2.7
150	20								2.8
	25								2.4
	30								2.1
175	20								2.2
	25								1.9
	30								1.8
200	20								
	25								
	30								
250	20								
	25								
	30								

1.8 (152 x 152) 1.8 (102 x 102)

For specified welded-wire reinforcement (fy = 448 MPa) located in top third of slab

Fiber dosage for replacing rebar for slab-on-ground, kg/m³

Slab thickness (mm)	Concrete Compressive strength ((MPa)	10-mm Rebar Off Center Spacing				10M Rebar Off Center Spacing				13-mm Rebar Off Center Spacing			
		225 mm	300 mm	375 mm	450 mm	300 mm	375 mm	450 mm	600 mm	300 mm	375 mm	450 mm	600 mm
100	20	NA	NA	2.9	2.3	NA	NA	NA	2.4	NA	NA	NA	3.3
	25			2.5	1.9				2.1				2.9
	30			2.2	1.8				1.9				2.5
125	20	NA	2.9	2.2		NA	3.4	2.7		NA	NA	NA	2.5
	25		2.5	1.8			2.9	2.3					2.1
	30		2.2	1.8			2.6	2					1.9
150	20	3.3	2.3			NA	2.7	2.1		NA	NA	2.8	1.9
	25	2.9	1.9				2.3	1.8				2.5	1.8
	30	2.5	1.8				2	1.8				2.2	1.8
175	20	2.7				2.9	2.2			NA	2.9	2.3	
	25	2.4				2.5	1.9				2.6	2	
	30	2.1				2.2	1.8				2.3	1.8	
200	20	2.3				2.4				3.3	2.5	1.9	
	25	1.9				2.1				2.9	2.1	1.8	
	30	1.8				1.9				2.5	1.9	1.8	
250	20									2.5			
	25									2.1			
	30									1.9			

1.8 1.8 1.8

For specified rebar (fy = 414 MPa) located in top third of slab

PLASTIC-SHRINKAGE CRACK	TEMPERATURE CRACKING	DRYING SHRINKAGE CRACKING
A surface crack that occurs in concrete before initial set.	Cracking caused by temperature drop in members subjected to external restraints or by temperature differential in members subjected to internal restraints (also called thermal cracking).	Cracking caused by restraint to volume change due to loss of moisture from hardened concrete.

* For MasterFiber MAC 2200CB dosage contact your local Master Builders Solutions representative.

Master Builders Solutions Admixtures US, LLC
23700 Chagrin Boulevard
Beachwood, OH 44122 USA
(800) 628-9990

Master Builders Solutions Canada, Inc
1800 Clark Boulevard
Brampton, Ontario L6T 4M7 CANADA
(289) 360-1300

master-builders-solutions.com/en-us
admixtures@masterbuilders.com

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