

# SUPERMORTAR +

SANDED TYPE S MORTAR MIX



Supermortar Plus™ is a preblended dry mortar mix of dry fine aggregate, Type I/II/V portland cement, Class F fly ash and hydrated lime thoroughly blended to provide masonry mortars with enhanced set time, workability, water retention, bond strength and durability. With the addition of only water at the mixer, preblended Supermortar Plus™ produces a Type S masonry mortar meeting both the Property and Proportion requirements of ASTM C 270 for use in the construction of both reinforced and non-reinforced unit masonry structures. Supermortar Plus™ mixed mortar bonds masonry units into an assemblage influencing the structural properties while adding to water resistance.



## Manufacture and Use

Supermortar Plus™ is manufactured with mortar mix materials that are dry, accurately maintained, controlled and measured batch to batch.

Preblended Supermortar Plus™ is stored and covered in such a manner as to prevent hardening, deterioration, contamination, segregation or intrusion of foreign material.

## Construction Practices

**Mixing Mortars** - Supermortar Plus™ should be mixed between 3 and 5 minutes in a mechanical batch mixer with the maximum amount of water to produce a workable consistency. Hand mixing Supermortar Plus™ mortar is acceptable provided written approval of the specifier is achieved outlining the specific hand mixing procedures.

**Tempering Mortars** - Supermortar Plus™ mixed mortar that has stiffened can and should be retempered by adding water as frequently as needed to restore the required consistency the mason demands. As with all mixed mortar, Supermortar Plus™ mixed mortar should be applied within 2 ½ hours after mixing per ASTM C 270 requirements.

## Plastic Properties

**Workability** - Mortar made with Supermortar Plus™ is exceptionally workable and has high water retention characteristics. Good workable mortar is key to achieving maximum bond with masonry units. Workable mortar made with Supermortar Plus™ results from a combination of plasticity, consistency, cohesion and adhesion, best assessed by the mason through how easily the mortar is spread with a trowel.

**Water Retention** - Mortar made with Supermortar Plus™ exhibits high water retention capacity, the ability to retain mixing water and, therefore, long lasting workability under the influence of evaporation and masonry unit suction. Supermortar Plus™ masonry mortar gives the mason time to place and adjust a masonry unit without the mortar stiffening too quickly.

*The plastic properties of mortar made with Supermortar Plus™ make for excellent construction suitability which in turn influences the properties of the hardened mortar and, therefore, of the finished structural assemblage.*

## Hardened Properties

**Bond** - Supermortar Plus™ provides excellent bond between mortar and the masonry units. Perhaps the most important single physical property of hardened mortar, bond is influenced by many variables and thus difficult to measure. The workable, plastic flow and water retention properties of mortar made with Supermortar Plus™ provide the essential elements for maximum bond.



strength, or more adequately stated, the ability of a mortar to resist cracking.

**Durability** - Supermortar Plus™ mortar properly placed and tooled resists water penetration, thereby producing durable masonry structures. Parapets, masonry paving, retaining walls, and other masonry exposed to freezing while saturated represent extreme exposures and thus require a more durable mortar, and Supermortar Plus™ is formulated with durability and sustainability in mind.



*Properties of hardened mortars made with Supermortar Plus™ make for high quality, durable and sustainable finished masonry performance.*

**Compressive/Flexural Strength** - Supermortar Plus™ is formulated to meet ASTM C 270 strength requirements for Type S masonry mortar. Adequate compressive strength relates to flexural or tensile



## ASTM C 270 Proportion Specification Requirements

Mortar	Type	Portland Cement or Blended Cement	Mortar Cement			Masonry Cement			Hydrated Lime or Lime Putty	Aggregate Ratio (Measured in Damp, Loose Condition)
			M	S	N	M	S	N		
Cement-Lime	M	1	...	...	...	...	...	...	1/4	Not less than 2 1/4 and not
	S	1	...	...	...	...	...	...	over 1/4 to 1/2	more than 3 times the sum of
	N	1	...	...	...	...	...	...	over 1/2 to 1 1/4	the separate volumes of
	O	1	...	...	...	...	...	...	over 1 1/4 to 2 1/2	cementitious materials

## ASTM C 270 Property Specification Requirements

Mortar	Type	Average Compressive Strength at 28 days, min, psi (MPa)	Water Retention, min, %	Air Content, max, %	Aggregate Ratio (Measured in Damp, Loose, Condition)
Cement-Lime	M	2500 (17.2)	75	12	Not less than 2 1/4 and not
	S	1800 (12.4)	75	12	more than 3 1/2 times the sum
	N	750 (5.2)	75	14 <sup>c</sup>	of the separate volumes of
	O	350 (2.4)	75	14 <sup>c</sup>	cementitious materials

<sup>c</sup> When structural reinforcement is incorporated in cement-lime or mortar cement mortar, the maximum air content shall be 12%

## Typical Supermortar Plus™ Properties

	Air	C 270 Spec	Day 7	Day 28	C 270 Spec	H2O Ret	C 270 Spec
Minimum	1.4		2870	3610		83.3	
Average	2.6	12.0	3632	4710	1800	89.2	75.0
Maximum	3.6		4560	5570		92.7	
St. Dev.	0.6		413	576		2.1	



## Mission Statement

Creating Opportunities and Solutions with Quality Products and Exceptional People

## Values

Profitability The Right Way... Integrity, Accountability, Excellence



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