

3M™ Natural Pozzolan

Supplementary Cementitious Material

Introduction

3M™ Natural Pozzolan is a partial cement replacement providing a consistent particle distribution processed from 3M's quarries (Wausau, Wisconsin, and Corona, California).

3M™ Natural Pozzolan can be used as a direct cement substitution or used in a binary or ternary mix with fly ash and/or slag cement.

3M™ Natural Pozzolans are compliant with ASTM C 618 and AASHTO M 295 and are source-qualified for use in ready mix concrete.

Product Description

- Complies to ASTM C 618 Tables 1 & 2
- Complies to AASHTO M 295
- Color is similar to light colored cements

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Typical Properties (NOT FOR SPECIFICATIONS)

Table 1. Chemical Composition (mass %)	Typical Results	ASTM C 618
SiO ₂ + AlO ₃ + Fe ₂ O ₃	~ 87.0	70.0 min
SO ₃	~0.10	4.0 max
Moisture Content	~0.2	3.0 max
Loss on ignition	~3.0	10.0 max

Table 2. Physical Test	Typical Results		ASTM C 618
	NP100W*	NP200C**	
% retained on No.325 sieve	7.0	25.0	34.0 max
Strength activity, % of control***			
* Portland cement @ 7 days	82.0	78.0	75.0 min
* Portland cement @ 28 days	82.0	78.0	75.0 min
Water requirement, % of control	97.0	100.0	115.0 max
Autoclave expansion, %	-0.03	0.03	0.8 max
Density uniformity, % from average	2.7	2.7	5.0 max

*NP100W: is mined from 3M's quarry in Wausau, WI and is listed on the Ohio Department of Transportation (ODOT) Qualified Products List for concrete mix design.

**NP200C: is mined from 3M's quarry in Corona, CA and is listed on the California Department of Transportation (CalTrans) list of Authorized Cementitious Materials For Use In Concrete.

***Strength activity index with Portland cement is a measure of reactivity with a given cement and is subject to variation depending on the source of both the natural pozzolan and the cement.

