

About the Presenter



- Drew Waldrop is the State Concrete Engineer with the Alabama Department of Transportation.
- He holds a Bachelor of Science degree in Civil Engineering from the University of Alabama and is a registered professional engineer in Alabama.
- He has been employed with ALDOT Bureau of Materials & Tests for over 11 years. He has served as the Chairman of the NTPEP Portland & Blended Cements Technical Committee since it was established as a task force in 2018.



OVERVIEW OF NTPEP PORTLAND & BLENDED CEMENT (PBC) TECHNICAL COMMITTEE

DREW WALDROP, P.E.

ALABAMA DOT

CHAIRMAN

BACKGROUND OF COMMITTEE

- 2018: NTPEP IMPLEMENTATION COMMITTEE ESTABLISHES TASK FORCE TO DEVELOP WORK PLAN FOR CEMENT
 - CONDUCTED SURVEY OF DOT REQUIREMENTS
 - SPECS FOR CEMENT DEVIATION FROM M 85 AND M 240?
 - FREQUENCY OF TESTING?
 - OTHER REQUIREMENTS?

PROGRAM OVERVIEW

- TESTING PROGRAM FOR ALL TYPES OF PORTLAND (AASHTO M 85/ ASTM C150) AND BLENDED (AASHTO M 240/ASTM C595) CEMENTS
 - QUARTERLY SAMPLES FROM PARTICIPATING MILLS

PORTLAND CEMENTS

TEST		AASHTO STANDARD	ASTM STANDARD
Air Content of mortar, volume		T 137	C185
Fineness, by Air Permeability Apparatus		T 153	C204
Autoclave expansion		T 107/T 107M	C151
Compressive strength		T 106	C109
Time of Setting	Vicat test	T 131	C191
Chemical Analysis (SiO2, Al2O3, Fe2O3,			
CaO, MgO, SO3, Na2Oeq, ignition loss,		T 105	C114
insoluble residue, and CO2)			

BLENDED CEMENTS

į	TEST		AASHTO STANDARD	ASTM STANDARD
I		Sieving and	T 192	C430
I	Fineness, by:	Air-Permeability Apparatus	T 153	C204
ı	Air Content of mortar, volume		T 137	C185
ı	Density		T 133	C188
ı	Autoclave expansion/contraction		T 107/T 107M*	C151
ı	Compressive strength		T 106	C109
i	Time of Setting (Vicat test)		T 131	C191
	Chemical Analysis (SiO ₂ , Al ₂ O ₃ , CaO, MgO, SO ₃ , S ² , ignition loss, insoluble residue, and CO ₂)		T 105	C114

PROGRAM OVERVIEW

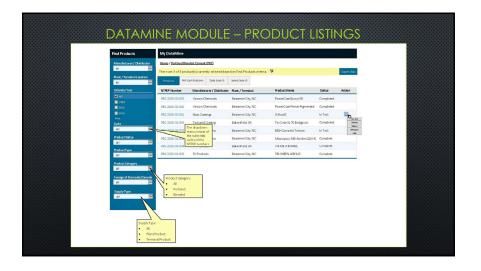
OPTIONAL TESTS AVAILABLE FOR ADDITIONAL FEES

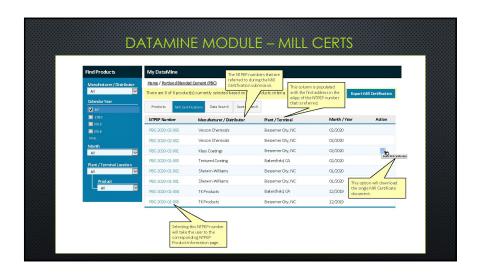
TEST	AASHTO STANDARD	ASTM STANDARD
Early stiffening of Hydraulic Cement (False set)	T 186	C451
Expansion of Mortar Bars stored in water	N/A	C1038
Heat of Hydration (using Isothermal Conduction Calorimetry)	N/A	C1702
Sulfate resistance (only type V portland cements)	N/A	C452
Heat of Hydration (required for MH or LH blended cements)	N/A	C1702
Water requirement (required for LH blended cements)	T 106	C109
Sulfate resistance (required for MS or HS cements)	N/A	C1012

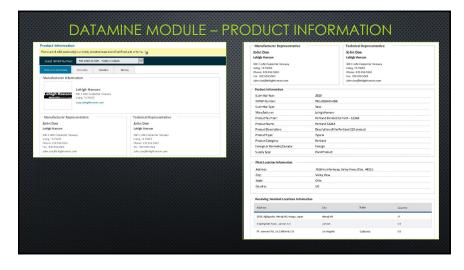
PROGRAM OVERVIEW PRODUCER INFORMATION CLEARINGHOUSE FOR STATES QMS SUBMITTED INITIALLY AND ANY TIME THERE IS A CHANGE MONTHS OF QC TEST DATA INITIALLY MILL CERTS UPLOADED MONTHLY

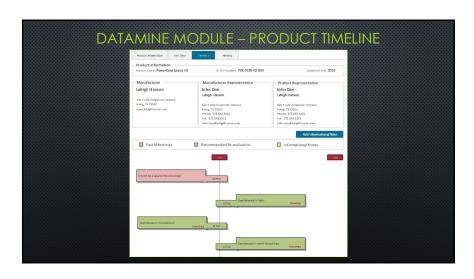
TESTING FACILITIES

- 3 LABS AWARDED CONTRACTS
 - AMERICAN ENGINEERING TESTING, INC. St. Paul, MN
 - SGS TEC SERVICES LAWRENCEVILLE, GA
 - CTLGROUP SKOKIE, IL
- LABS ARE REQUIRED TO MAINTAIN AASHTO ACCREDITATION
- ALL TESTING MUST BE COMPLETED WITHIN $\underline{2}$ MONTHS OF RECEIPT OF SAMPLE









PROGRAM BENEFITS • FOR DOTS: • FREES UP DOT RESOURCES FOR PROJECT-LEVEL TESTING • AS A SUPPLEMENT, PROVIDES INDEPENDENT 3RD PARTY TESTING FOR COMPARISON • FOR INDUSTRY: • ELIMINATES OR REDUCES REDUNDANT SAMPLING FOR DOT

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