

Structural Portland Cement Concrete

Type of Construction	Material	Test	Frequency of Acceptance Samples and Tests for Job Control	Construction Stages for Obtaining Sample or Test	Sample Size	Procedures		Remarks
						Sampling Method	Test Methods	
Structural Portland Cement Concrete	Quality Control Operation		Study ALDOT-170 before beginning any Quality Control operations.					
		Laboratory and Equipment Check List	Prior to production (DAILY)					
	Stock Piling Aggregates	Visual inspection	Daily on arriving shipments. Aggregate must be from an approved source and accompanied by BMT-10	Prior to use			ALDOT-175	Check approved source list in Materials, Sources, and Devices with Special Acceptance Requirements Manual before beginning stockpiling operations. See ALDOT-175 and ALDOT-249

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	Design Mix		The design mix is reviewed and approved by the Concrete Section of the Bureau of Materials and Tests, and approved for use on the project by the Area Materials Engineer prior to beginning operations.	NOTE: See ALDOT-170	NOTE: See ALDOT-170	AASHTO T-2 (Representative Sample); ALDOT-210. NOTE: See ALDOT-170		ALDOT Region or project personnel will sample all components and deliver to the Central Laboratory. Report on BMT-1.
	Mix Components: Cement		Pretested from approved sources	Prior to use see ALDOT-195 and ALDOT-227				Must be from an approved source. See list I-2, Materials, Sources and Devices With Special Acceptance Requirements. Report on BMT-1.
	Mineral Admixtures		Pretested from approved sources	Prior to use see ALDOT-195 and ALDOT-227				Must be from an approved source. See list I-3, Materials Sources and Devices With Special Acceptance Requirements Manual. Report on BMT-1.

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Fine Aggregate	Gradation and Fineness Modulus	See ALDOT-249	Before beginning operations and during production. See ALDOT-249		AASHTO T 2	AASHTO T 27, ALDOT-253	Aggregate must be from an approved source. See list I-1, Materials Sources and Devices With Special Acceptance Requirements. See ALDOT-249 and ALDOT-175	
		Unit Weight	See ALDOT-249	Before beginning operations and during production	AASHTO T-2	AASHTO T-19	See List I-1, Materials, Sources, and Devices with Special Acceptance Requirements Manual	
		Deleterious Materials	Pretested see ALDOT-249	Before beginning operations and during production.	AASHTO T-2	AASHTO T-11		
Coarse Aggregates	Gradation	See ALDOT-249	Before beginning operations and during production.	AASHTO T-2 (Table I)	AASHTO T-2	AASHTO T-27, ALDOT-253	Aggregate must be from approved source. See List I-1 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual. See ALDOT-175 and ALDOT-249.	
		Unit Weight	No set frequency for testing. Tests will be run when required by the Engineer	Before beginning operations and during production. See ALDOT-249	AASHTO T 2 (Table I)	AASHTO T-2	AASHTO T-19	
Water		Approved prior to use	Prior to use. See Section 807					

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	Chemical Admixtures		Approved prior to use	Prior to use. See ALDOT-195, ALDOT-170, and Sections 808 and 809				Must be from approved sources. See List II-1 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.
	Portland Cement Concrete	Batching Plant, Mixers and Transport vehicle checks	Every two years and visual inspection daily				AASHTO M-157	NRMCA Certification required. See ALDOT-352
	<u>Quality Control Tests</u>	Moisture Tests: Fine and Coarse Aggregate	Before beginning each days production, then as often as necessary to compensate for moisture changes in the aggregate	See ALDOT-170	AASHTO T-85 AASHTO T-217 AASHTO T-255	AASHTO T-2	AASHTO T-85 AASHTO T-217 AASHTO T-255	Report on BMT-122 and Plant Diary.

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		Test Cylinders	<p>One set for every 50 yd³ (40 m³) or fraction thereof for each mix design supplied on each days pour, unless otherwise approved in writing by the Materials & Tests Engineer.</p> <p>A Set of cylinders is composed of: 1-7 days and 2-28 days cylinders.</p> <p><u>NOTE:</u> Additional cylinders shall be made to determine form stripping and opening to traffic; or in the case of seal concrete to determine dewatering before 7 days.</p>	During placing of concrete operation.	AASHTO T-141	AASHTO T-141	AASHTO T22 and AASHTO T-23	Submit cylinders to Project or Area Materials Laboratory for Standard Curing and compressive strength testing. Submit with Form BMT-1.

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		Slump	First truck that arrives at the job site (See ALDOT-328) and every time concrete cylinders are made.	During concrete placing operation	ALDOT-328 AASHTO T-141	ALDOT 328 AASHTO T-141	AASHTO T-119	Report on Forms BMT-83, BMT-122, AND BC-101 (Inspector's Daily Report)
		Air Content	First truck that arrives at the job site (See ALDOT-328) and every time concrete cylinders are made.	During concrete placing operation	ALDOT-328 AASHTO T-141	ALDOT-328 AASHTO T-141	AASHTO T-152	Report on Forms BMT-83, BMT-122, and BC-101 (Inspector's Daily Report)
		Temperature of Concrete	First truck that arrives at the job site (See ALDOT-328) and every time concrete cylinders are made.	During concrete placing operation	ALDOT-328 AASHTO T-141	ALDOT-328 AASHTO T-141	ASTM C-1064	Report on Forms BMT-83, BMT-122, and BC-101 (Inspector's Daily Report)
		Cylinders for Pneumatically Applied Concrete	See ALDOT-231	During concrete placing operation		ALDOT-231	ALDOT-231	
		Concrete Monthly Reports	Monthly	During concrete placing operation				Report monthly to the Bureau of Materials and Tests (Concrete Section) on Form BMT-117
	Ready Mix Concrete		Ready Mix Concrete must meet all provisions of this section					

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	Curing Materials, Liquid Membranes.		Approved prior to use	See List II-30.		AASHTO M-148		Must be from approved sources. See List II-30 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.
	Burlap Polyethylene Sheeting, Waterproof Paper Sheeting, etc.					AASHTO M-171		Shall meet requirements of Section 830
	Steel Reinforcement	NOTE: See Section 502						
	Preformed Joint Fillers	Physical	Pretested	Prior to use	3 ft (1 m) by full depth. Minimum 6 in (150 mm)	AASHTO M-33 AASHTO M-153 AASHTO M-213 AASHTO M-220 ALDOT-210	Visual for damage	Submit using Form BMT-1.
	Preformed Elastomeric Joints (Compressive Seals)	Chemical and Physical	Must be from an approved source for design. Sample at project level one sample per source, per size, per lot and certified test reports.	Prior to use see ALDOT-195	For joints up to and including 3 in. (75 mm) submit 5 ft (1.5 m). For joints over 3 in. in (75 mm) submit 3 ft (1 m).	ALDOT-210	Visual for damage	Submit using Form BMT-1.

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	Hot and Cold Pours	Physical	See ALDOT-195	See List III-4				List III-4 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.
	Lubricant Adhesive	Physical	See ALDOT-195	See list II-9				List II-9 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.
	Water Stops	Physical	Sample at project level and submit for testing with certified test reports to the Bureau of Materials and Tests	Prior to use see ALDOT-195	3 ft (1 m)	ALDOT-210		Submit using Form BMT-1
	Welding Electrodes	Physical and Chemical	ALDOT-195; Section 2.3 Certified test Report for each lot of electrodes	Before incorporation in work see BMT-195			Visual for dampness and unsealed containers	Electrodes must meet requirements of AASHTO/AWS D1.5M/D1.5 Bridge Welding Code
	Permanent Steel Bridge Deck Forms		ALDOT-195; Section 2.3 Certified Test Report for Each Heat of Steel	Before incorporation in work see BMT-195				Submit Certifications to Area Materials Engineer

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	Bridge Coating Material		See BMT-195 Section 2.4	See List III-3 for acceptable materials. If product is not on this list, see ALDOT-355 for information on product approval.				List III-3 and ALDOT-355 are found in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.
	Bridge Joint Seals	NOTE: See Section 522						