

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

October 16, 2007
Supersedes April 17, 2007

Sections 2403, 2404, 2405, 2406, 2412, & 2415

Matls. IM 204
Appendix H (Metric) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS	
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT		
SOURCE INSPECTION															
Aggregate-Fine (4110)		AS 209													
Aggregate-Coarse (4115)		AS 209													
Granular Backfill (4133)		AS 209													
Portland Cement (4101)	Quality	AS 401													
Fly Ash (4108)	Quality	AS 491.17													
Mixing Water (4102)	Quality								RCE	1/project	1 L	CTRL	731	Not required for potable water from Municipal Supply	
GGBFS (Ground Granulated Blast Furnace Slag)	Quality	AS 491.14													
Air Entraining Admixture	Quality	AS 403													
Retarding Admixture	Quality	AS 403													
Water reducing Admixture	Quality	AS 403													
Curing Compound, White (4105)	Lab Tested	405							V	DME	1/batch	1 qt	CTRL		
Curing Compound, Clear (4105)		AS 405.07													
AS-Approved Source ASD-Approved Shop Drawing S&T-Sampling & Testing			Cert A-Type A Certification Cert C-Type C Certification Cert D-Type D Certification					RCE-Resident Construction Engineer/Project Engineer DME-District Materials Engineer CTRL-Central Materials Office CONTR-Contractor						IA-Independent Assurance V-Verification	

NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

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SOURCE INSPECTION															
Preformed Joint Sealer (4136)	Lab-Tested	AS	436.02 436.05												
Reinforcing Steel Bars (4151)	Quality	AS	451												
Steel Pile (4167)	Quality		467												
Concrete Pile (4166)	Quality	AS	570												
Timber Pile (4165)	Quality	Cert A AS	462												
Timber (4162) & Lumber (4163)		Treated-Cert A	462												
Concrete Anchors	Quality	AS	453.09												
Epoxy Grout	Quality	AS	491.11												
Concrete Sealer	Quality	AS	491.12												
Subdrain Pipe (4143)	Quality	AS	443, 448												
Neoprene Bearing Pads (4195)		AS	495.03												
Bronze Bearing Plates (4190.03)		ASD/Cert A													
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SOURCE INSPECTION															
Steel Masonry Plate (4152)		ASD/Cert A													
Precast Units (2407)	Quality	AS 570													
Anchor Bolts (lighting, signing, handrail) (4153)	Lab Tested	ASD													
Structural Steel (4152)	Quality	Cert A												Monitor Sample According to plans or other instructions	
Aluminum Bridge Rail & Anchor Assembly		ASD													
Conduit (Electrical) (4185.10) Steel)		AS													
Conduit (Plastic) (4185.10)	Lab Tested							V	DME	1/size	1 m with coupling	C TRL			
Bentonite		Visual													
Flowable Mortar	Lab Tested	Approved Trial Mix 525, 375												Tested by DME	
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PLANT INSPECTION															
Aggregate- Fine (4110)	Gradation Deck	302, 306 336	CONTR	IM 528	IM 301	CONTR	800240	IA V	DME RCE/ CONTR	1/750 m³ Sample & Test 1/deck/wk	IM 301 IM 301	DME RCE		May use System App.	
	Gradation All other		CONTR	IM 528	IM 301	CONTR		IA V	DME RCE/ CONTR	1/750 m³ Sample 1/wk Test 1 st day +20%	IM 301 IM 301	DME RCE		May use System App.	
	Moisture	308, 528	CONTR	1/lot	1000 gm	CONTR								See IM 528 if Moisture Probe is used	
	Sp. Gr.	307	CONTR	IM 528	1000 gm	CONTR									
	Quality	AS 209													
Aggregate- Coarse (4115)	Gradation Deck	302, 306 336	CONTR	IM 528	IM 301	CONTR		IA V	DME RCE/ CONTR	1/750 m³ Sample & Test 1/deck/wk	IM 301 IM 301	DME RCE		May use System App.	
	Gradation All other		CONTR	IM 528	IM 301	CONTR		IA V	DME RCE/ CONTR	1/750 m³ Sample 1/wk Test 1 st day +20%k	IM 301 IM 301	DME RCE		May use System App.	
	Moisture	308, 528	CONTR	1/lot	2000gm	CONTR									
	Sp. Gr.	307	CONTR	IM 528	2000gm	CONTR									
	Quality	AS 209						V	DME	1/750 m³	22 kg	CTRL		(1)	
Portland Cement	w/c ratio	528	CONTR	1/pour		CONTR									
	Quality	AS Cert D						V	DME	1/750 m³	7 kg	CTRL		(1)	
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(1) These verification samples for concrete materials not required when mix quantity is less than 40 m³.

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PLANT INSPECTION															
Fly Ash	Quality	AS	Cert D		Ea Load			800240							
GGBFS(Ground Granulated Blast Furnace Slag)	Quality	AS	Cert D		Ea Load				V	DME	1/750 m³	7 kg	CTRL		
Air Entraining Admixture (4103)		AS	403						V	RCE	1/batch	0.5 L	CTRL		(1) Sample lots not previously reported or as required by DME
Retarding Admixture		AS	403						V	RCE	1/batch	0.5 L	CTRL		
Water Reducing Admixture (4103)		AS	403						V	RCE	1/batch	0.5 L	CTRL		
GRADE INSPECTION															
Plastic Concrete	Air Content	316, 327						M145*	IA V	DME RCE	1/750 m³ 1/25 m³		DME RCE		DME may adjust
	Slump	317, 327							IA	DME	1/750m³		Witness Only RCE		DME may adjust
	Beams	316, 327, 328								RCE	2/placement		RCE		If required per 2403.18 & 2403.19
	Cylinders									DME	3/project		DME		Primary Projects Only (Information only)
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*Available from the Office of Construction.

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GRADE INSPECTION															
Reinforcing Steel (4151)	Quality	AS	Cert A		Each Shipment			Field Book	V	DME	IM 451	2 m	CTRL		
Reinforcing Steel Epoxy Coated (4151)	Quality	AS	Cert A		Each Shipment			Field Book	V	DME	1 bar	2 m	CTRL		Will be acceptance tested for coating
Steel Pile (4167)	Quality	AS	Cert A		Each Heat			Field Book	V	DME	IM 467		CTRL		
Timber Pile (4165)	Quality	AS	462 Cert A						V	DME	IM 462		CRTL		No grade requirement Charge numbers on butt end.
Anchor Bolts (lighting, signing, handrail)	Lab Tested	ASD							V	DME	1/project	1 bolt w/nut & washer	CTRL		Sample only if not source inspected
Steel Masonry Plates (4152)		ASD	Cert A		Each Shipment			Field Book							Approved by Materials Department
Bronze Bearing Plates (4190.03)	Lab Tested								V	DME	1/project	1 only	CTRL		Sample only if not source inspected
Neoprene Bearing Pads (4195)		AS	495.03		Each Shipment			820905							
Alum. Bridge Rail & Anchor Assembly		ASD			Each Shipment			Field Book							Approved By Materials Dept.
Drains (Std Steel Pipe)(as per plan)	Dimensions Galvanized	ASD	Visual 332						V	DME	1/project		DME	Test Report	
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GRADE INSPECTION														
Timber (4162) & Lumber (4163)	Quality	AS Treated-Cert A 462		Each Shipment										
Subdrain Pipe (4143)	Quality	AS Cert D 443, 448		Each Shipment										
Flowable Mortar (2506) ▼	Flow Test	375	RCE	As needed for Project Control		RCE	830211							Mix Design approval by DME
Bentonite	Flow Test	Visual 375				RCE								
Smoothness (2317)	Profilometer	Cert. Test Rpt. 341	CONTR	Each Project	Each Wheelpath	CONTR	821301	V		10%		DME		
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