

CCRL

Cement and Concrete
Reference Laboratory



33rd Laboratory

Inspection Tour Summary

33rd Tour Summary of Concrete Inspections

Number of inspections covered: 1063

C1077: Organization - number checked: 1036 number okay: 942

Deficiencies

Missing Information 92

Other 5

C1077: Technician Certifications - number checked: 1036 number okay: 708

Deficiencies

Laboratory Technician 306

Field Technician 26

Supervising Field Technician 37

Supervising Laboratory Technician 305

C1077: Human Resources - number checked: 1036 number okay: 787

Deficiencies

Registered Professional Engineer 34

Written Procedure for Training 33

Written Procedure for Performance Evaluations 65

Technicians' Records 203

C1077: Laboratory Records and Reports - number checked: 1036 number okay: 810

Deficiencies

Written Information 102

Records 13

Final Report 145

Other 8

C1077: Quality Systems - number checked: 1036 number okay: 715

Deficiencies

Technical Complaints 30

External Technical Services 12

Proficiency Sample 209

Current Test Methods and Manual Date 158

C1077: Equipment - number checked: 1036 number okay: 534

Deficiencies

Specific Criteria 141

Equipment Inventory 197

Calibration Records 371

Written Information 120

Calibrations not in C1077 (partial tour) - number checked: 1012 number okay: 728

Deficiencies

Volumetric Meter 196

Capping Material 93

Unit Weight Measure 132

Calibrations not in C1077 continued (partial tour) - number checked: 735 number okay: 517

Deficiencies

Slump Cones 137

Cylinder Molds 110

Pressure Meters 70

C511: Moist Storage - number checked: 633 number okay: 376

Deficiencies

Temperature 100

Humidity and Surface Moisture 30

Thermostatically Controlled 61

Recording Thermometer (including verification) 154

C511: Water Storage - number checked: 864 number okay: 494

Deficiencies

Temperature 130

Thermostatically Controlled 97

Recording Thermometer (including verification) 256

Other (lime; cleaned) 28

C511: Temperature Recorder - number checked: 1071 number okay: 654

Deficiencies

Available 82

Recorder Requirements 102

Recorder Verification 273

Reference Thermometer 76

C39: Upper Bearing Block - number checked: 1071 number okay: 786

Deficiencies

Diameter 15

Planeness 154

Design 43

Other (cleaned and oiled; deformation; seating) 138

C39: Lower Bearing Block - number checked: 1060 number okay: 979

Deficiencies

Diameter 5

Planeness 76

Other (thickness) 6

C39: Compression Machines - number checked: 1048 number okay: 917

Deficiencies

Indication 104

Maximum Load Indication 20

Capsule Clearances 1

Design and Condition 27

C470: Cylinder Mold (grouped per Type or Size) - number checked: 1315 number okay: 1226

Deficiencies

Dimensions 4

Perpendicularity/Planeness 15

Watertight 26

Other (splitting, cracking, verification frequency) 51

C31: Cylinder Shipping Containers - number checked: 971 number okay: 904

Deficiencies

Design (cushioning, insulating, moisture loss prevention) 45

Availability 22

Other (transport time) 4

C617: Capping Stands - number checked: 1002 number okay: 932

Deficiencies

Plate Dimensions 10

Plate Planeness 35

Guides Perpendicular 2

Other (alignment, surface condition) 39

C617: Cylinder Caps as found (2 per cylinder) - number checked: 2034 number okay: 1935

Deficiencies

Perpendicularity 30

Planeness 61

Soundness 67

Other (thickness, shrinkage cracking) 4

C617: Cylinder Caps as left - number checked: 2034 number okay: 1981

Deficiencies

Number Unable to Cap Properly 53

C617: Portland Cement Material - number checked: 0 number okay: 0

C617: Gypsum Plaster Material - number checked: 17 number okay: 8

Deficiencies

Strength 2

Other (water cement ratio, curing, qualification) 8

C617: Sulfur Capping Material - number checked: 668 number okay: 578

Deficiencies

Strength 2

Temperature 6

Verification 66

Other (qualifications) 21

C617: Capping Equipment - number checked: 699 number okay: 560

Deficiencies

Cube Mold 9

Cover plate 39

Hood 79

Other (thermometer; temperature control; straightedge; feeler stock) 40

C1231: Unbonded Caps (per pair) - number checked: 1210 number okay: 845

Deficiencies

Retaining Rings (planeness; gouges) 292

Pads (number of reuses recorded) 72

Accessories (cages, squares, straightedge, deformation rod) 22

Pad Qualification 16

C143: Slump Cones - number checked: 1102 number okay: 1070

Deficiencies

Dimensions 7

Plastic Qualification 5

Other 23

5/8 inch Tamping Rods - number checked: 1146 number okay: 1137

Deficiencies

Length 5

Diameter 0

End Condition 9

Other 1

3/8 inch Tamping Rods - number checked: 501 number okay: 492

Deficiencies

Length 1

Diameter 2

End Condition 2

Other 4

Internal Vibrators - number checked: 220 number okay: 218

Deficiencies

Frequency 0

Diameter 1

Other 1

C1064: Thermometer set (field and reference as one set) - number checked: 1042 number okay: 919

Deficiencies

Field Type (incorrect graduation; incorrect range) 4

Reference (availability; incorrect graduations) 45

Reference Verification including Certificate or Report 80

C138: Unit Weight Measures - number checked: 1109 number okay: 1044

Deficiencies

Dimensions 13

Calibration Factor 15

Planeness 18

Other 27

C138: Unit Weight Accessories - number checked: 1047 number okay: 990

Deficiencies

Strike off Plate 54

Mallet 2

Other 2

C138: Unit Weight Scales - number checked: 1057 number okay: 1006

Deficiencies

Capacity 10

Accuracy 36

Other (missing) 6

C173: Air Content (Volumetric) Meters - number checked: 851 number okay: 777

Deficiencies

Meter (Watertight) 26

Measure Cup (missing; cracked) 17

Accessories 18

Volumes (meter and cup) 23

C231: Air Content (Pressure) Meter - number checked: 1041 number okay: 606

Deficiencies

Aggregate Correction Factor 372

Calibration Vessel (height; style) 27

Operating Condition, Airtight 48

Accessories (mallet; strike off bar) 19

C143: Slump Procedure - number checked: 1046 number okay: 999

Deficiencies

Layers (numbers; correct volume, non absorbent surface) 21

Rodding (number per layer) 6

Within Time Limits 10

Measurement 14

C138: Unit Weight Procedure - number checked: 1046 number okay: 994

Deficiencies

Layers (numbers; correct volume) 7

Rodding (number per layer) 2

Tapping 11

Strike Off 42

C173: Air Content (Volumetric) Procedure - number checked: 845 number okay: 588

Deficiencies

Filling 63

Inversion and Agitation 127

Alcohol Added Correctly 49

Readings 154

C231: Type "B" Pressure Test - number checked: 977 number okay: 740

Deficiencies

Filling with Concrete 7

Operation (filling with water; removing air; relieving local constraints; reading) 195

Other 30

C231: Type "A" Pressure Test - number checked: 2 number okay: 2

C172: Sampling of Concrete Procedure - number checked: 1037 number okay: 1013

Deficiencies

Number of Samples 10

Middle Portion 1

Times 10

Other 3

C1064: Measuring Temperature of Concrete Procedure - number checked: 1046 number okay: 1027

Deficiencies

Placement 18

Reading 5

C31: Cylinder Fabrication Procedure - number checked: 1046 number okay: 1000

Deficiencies

Rodding 16

Tapping Sides 30

Finishing 2

Cover 0

C617: Sulfur Capping Procedure - number checked: 687 number okay: 626

Deficiencies

Temperature 14

Plate Oiled 0

Ends Dried 3

Other (end condition thickness) 50

Misc. Cylinder Details (Both Sulfur and Unbonded) - number checked: 1054 number okay: 875

Deficiencies

Cylinders Moist 6

Caps Plane 30

Diameters 155

Other 23

C1231: Pad Cap Procedure - number checked: 959 number okay: 677

Deficiencies

Check for Perpendicular 39

Check for Depressions 48

Specimen Centered 3

Alignment with preload 270

C39: Testing of Cylinders Procedure - number checked: 1054 number okay: 792

Deficiencies

Other (Alignment) 28

Rotate Head 193

Rate Okay 52

Testing to Failure 19

C39: Breaking of Cylinders Procedure - number checked: 1054 number okay: 1042

Deficiencies

Tolerances 1

Other 11

33rd Tour Summary of Aggregate Inspections

Number of inspections covered: 438

Sample Shipping Container - number checked: 166 number okay: 166

Drying Ovens - number checked: 500 number okay: 483

Deficiencies

Temperature 14

Condition 6

Other 3

Other Drying Equipment - number checked: 44 number okay: 44

Sample Splitters - number checked: 667 number okay: 635

Deficiencies

Chutes 7

Feeder 21

Pans 3

Other 2

Sieves (8-inch Diameter) - number checked: 4949 number okay: 4882

Deficiencies

Screen 56

Frame 3

Other 8

Sieves (Other than 8-inch Diameter) - number checked: 2696 number okay: 2668

Deficiencies

Screen 20

Frame 0

Other 8

Complete Set of Sieves - number checked: 477 number okay: 473

Deficiencies

Complete for all Aggregate Tests listed in C1077 4

Mechanical Sieving Devices - number checked: 746 number okay: 742

Deficiencies

Condition 3

Sieving Motion 0

Other 1

Balances - number checked: 836 number okay: 824

Deficiencies

Accuracy 8

Sensitivity 4

Other 2

Testing Weights (Sets) - number checked: 71 number okay: 68

Deficiencies

Accuracy 2

Container 1

C40: Organic Impurities Kit - number checked: 598 number okay: 569

Deficiencies

Bottles 23

Color Standard 14

NaOH Solution 15

Other 1

C117: Minus No. 200 Equipment - number checked: 440 number okay: 430

Deficiencies

Pans 0

Sieves 5

Other 5

C128: Specific Gravity and Absorption of Fine Aggregate - number checked: 435 number okay: 426

Deficiencies

Conical Mold 2

Tamping Rod 1

Pycnometer 2

Other 6

C127: Specific Gravity and Absorption of Coarse Aggregate - number checked: 441 number okay: 424

Deficiencies

Container 13

Set-up 2

Balance 1

Other 3

C702: Reducing Samples Procedures - number checked: 438 number okay: 426

Deficiencies

Splitting 6

Quartering 4

Miniature Stockpile 0

Other 2

C40: Organic Impurities Procedure - number checked: 426 number okay: 421

Deficiencies

Sand to 4.5 oz mark 3

NaOH to 7 oz mark 4

C566: Total Moisture Content Procedure - number checked: 438 number okay: 423

Deficiencies

Sample Weight 2

Constant Weight 4

Calculations 3

Other (Surface Moisture Content) 6

C136: Sieve Analysis of Fine Aggregates Procedure - number checked: 438 number okay: 418

Deficiencies

Sample Weight 9

Constant Weight 3

Final = Original Weight 12

Weighed to 0.1% 1

C136: Sieve Analysis of Coarse Aggregate Procedure - number checked: 437 number okay: 422

Deficiencies

Sample Weight 4

Constant Weight 1

Final = Original Weight 11

Weighed to 0.1% 0

C117: Minus 200 Sieving Test Procedure - number checked: 437 number okay: 359

Deficiencies

Sample Weight 3

Washing in container 36

Decanted 54

Calculations 2

C128: Specific Gravity of Fine Aggregates Procedure - number checked: 430 number okay: 365

Deficiencies

Cone Test 25

Pycnometer Procedure 48

Drying 4

Other (Calculations) 6

C127: Specific Gravity of Coarse Aggregates Procedure - number checked: 435 number okay: 416

Deficiencies

Sample Weight 4

Drying 1

SSD Weight 8

Other (Calculations, Weight in Water) 9

33rd Tour Summary of Steel Inspections

Number of inspections covered: 119

Set of Measuring Equipment - number checked: 119 number okay: 118

Deficiencies

Steel Scale 1

Punch 0

Permissible Variation in Weight - number checked: 106 number okay: 103

Deficiencies

Capacity 0

Graduation 3

Tensile Test Machine - number checked: 118 number okay: 106

Deficiencies

Indication 9

Max Hands 0

Capsules 0

Other 6

Grips - number checked: 121 number okay: 120

Deficiencies

Condition 1

Other 1

Liners - number checked: 117 number okay: 115

Deficiencies

Condition 0

Matching Pairs 2

Other 1

Tensile Procedure - number checked: 117 number okay: 108

Deficiencies

Loading Rate 1

Yield Point 0

Elongation 1

Other 7

Bend Test Jig - number checked: 81 number okay: 70

Deficiencies

Design 0

Bends 180 degrees 0

Pins free to rotate 10

Other 2

Bending Pins - number checked: 268 number okay: 254

Deficiencies

Size 14

Condition 0

Other 2

Adequate Pins for Bar Size Testing - number checked: 110 number okay: 99

Deficiencies

Missing Sizes 16

Bending Procedure - number checked: 79 number okay: 57

Deficiencies

Proper Pin Size 2

Force Applied Okay 4

Pin and Supports Free to Rotate 17

Bends 180 degrees 0

33rd Tour Summary of Optional Test Methods

Number of inspections covered: 560

C29 - number checked: 107 number okay: 98

Deficiencies

Sample Weight 5

Rodding 4

Jigging 0

Shovel 0

C42 - number checked: 201 number okay: 167

Deficiencies

Apparatus 34

Procedure 1

Capping 0

C70 - number checked: 18 number okay: 17

C78 - number checked: 371 number okay: 162

Deficiencies

Tester 49

Mold 8

Procedure 151

Other 60

C87 - number checked: 5 number okay: 5

C88 - number checked: 87 number okay: 78

Deficiencies

Oven 2

Other Equipment 6

Procedure 2

C116 - number checked: 1 number okay: 1

C123 - number checked: 24 number okay: 21

C131 - number checked: 81 number okay: 74

Deficiencies

Drum 6

Charge 1

Procedure 0

C142 - number checked: 55 number okay: 51

C157 - number checked: 57 number okay: 34

C174 - number checked: 62 number okay: 53

Deficiencies

Apparatus 6

Procedure 4

C192 - number checked: 243 number okay: 204

Deficiencies

Mixer 9

Procedure 19

Rental 17

C215 - number checked: 16 number okay: 15

C227 - number checked: 11 number okay: 10

C232 - number checked: 3 number okay: 3

C233 - number checked: 1 number okay: 1

C234 - number checked: 0 number okay: 0

C289 - number checked: 5 number okay: 5

C293 - number checked: 42 number okay: 33

C341 - number checked: 3 number okay: 3

C360 - number checked: 0 number okay: 0

C403 - number checked: 37 number okay: 31

C418 - number checked: 0 number okay: 0

C441 - number checked: 3 number okay: 3

C457 - number checked: 12 number okay: 12

C469 - number checked: 21 number okay: 19

C495 - number checked: 10 number okay: 8

C496 - number checked: 39 number okay: 33

Deficiencies

Machine 2

Accessories 3

Procedure 1

C512 - number checked: 4 number okay: 4

C535 - number checked: 56 number okay: 53

Deficiencies

Drum 3

Charge 0

Procedure 0

C567 - number checked: 15 number okay: 13

C586 - number checked: 2 number okay: 2

C597 - number checked: 4 number okay: 4

C641 - number checked: 2 number okay: 2

C642 - number checked: 24 number okay: 24

C666 - number checked: 34 number okay: 28

C671 - number checked: 1 number okay: 1

C672 - number checked: 7 number okay: 7

C682 - number checked: 0 number okay: 0

C684 - number checked: 1 number okay: 1

C779 - number checked: 1 number okay: 0

C801 - number checked: 0 number okay: 0

C803 - number checked: 25 number okay: 25

C805 - number checked: 45 number okay: 35

Deficiencies

Hammer 2

Calibration 10

Procedure 0

C873 - number checked: 3 number okay: 3

C876 - number checked: 3 number okay: 2

C900 - number checked: 0 number okay: 0

C918 - number checked: 2 number okay: 2

C944 - number checked: 2 number okay: 2

C1019 - number checked: 38 number okay: 23

C1040 - number checked: 2 number okay: 1

C1074 - number checked: 9 number okay: 8

C1084 - number checked: 2 number okay: 2

C1105 - number checked: 5 number okay: 5

C1137 - number checked: 0 number okay: 0

C1138 - number checked: 1 number okay: 1

C1152 - number checked: 4 number okay: 3

C1170 - number checked: 1 number okay: 0

C1176 - number checked: 1 number okay: 0

C1202 - number checked: 49 number okay: 35

C1218 - number checked: 8 number okay: 8

C1260 - number checked: 13 number okay: 6

C1293 - number checked: 5 number okay: 4

C1314 - number checked: 3 number okay: 2

C1567 - number checked: 5 number okay: 4

D2419 - number checked: 31 number okay: 27

33rd Tour Summary of Cement Inspections

Number of inspections covered: 206

Organizational - number checked: 193 number okay: 184

Director of Testing - number checked: 193 number okay: 191

Deficiencies

Qualifications 0

3 years experience 1

Full-Time Employee 0

Other 1

Human Resources - number checked: 193 number okay: 157

Deficiencies

Written Procedure for Training 8

Written Procedure for Performance Evaluation 14

Technicians' Records 32

Other 2

Standard Operating Procedures - number checked: 193 number okay: 173

Deficiencies

Written Procedure for Sampling 8

Written Procedure for Handling Specimen 18

Written Procedure for Testing Samples 11

Other 1

Final Report - number checked: 193 number okay: 182

Deficiencies

Written Information 3

Retained for 3 years 2

Other (standards) 9

Quality Assurance - number checked: 193 number okay: 178

Deficiencies

Technical Complaints 7

External Technical Services 1

Proficiency Sampling 7

ASTM Standards 4

Equipment - number checked: 193 number okay: 122

Deficiencies

Equipment Inventory 26

Equipment Calibrated 38

Calibration Records 36

Written Calibration Procedures 38

Chemical Methods - number checked: 173 number okay: 105

Deficiencies

Difference in Duplicates 30

Difference from SRM 42

2 years 18

Other 20

C511: Moist Storage - number checked: 206 number okay: 156

Deficiencies

Temperature 7

Humidity and Surface Moisture 9

Thermostatically Controlled 3

Recording Thermometer (including verification) 35

C511: Water Storage - number checked: 205 number okay: 167

Deficiencies

Temperature 10

Thermostatically Controlled 1

Recording Thermometer (including verification) 25

Other (lime; cleaned) 3

C511: Temperature Recorder - number checked: 197 number okay: 134

Deficiencies

Available 5

Recorder Requirements 15

Recorder Verification 44

Reference Thermometer 15

C490: Work Room - number checked: 206 number okay: 182

Deficiencies

Temperature 3

Humidity 22

Other 1

Mix Water Temperatures - number checked: 206 number okay: 194

Deficiencies

Temperature 12

C115: Turbidimeters - number checked: 14 number okay: 14

C115: Digital Microammeters - number checked: 13 number okay: 13

C115: D'Arsonval Microammeter - number checked: 2 number okay: 2

C430: No. 325 Sieves - number checked: 573 number okay: 470

Deficiencies

Frame 1

Screen 26

Holes Open 1

Correction Factor 82

C430: Wet Sieve Gages - number checked: 196 number okay: 187

Deficiencies

Size 1

Graduations 1

Accuracy 7

C430: Wet Sieve Spray Nozzles - number checked: 198 number okay: 183

Deficiencies

Size 0

Spray Pattern 1

Flow Rate 9

Other (clogged) 7

C151: Autoclaves - number checked: 207 number okay: 163

Deficiencies

Thermometer 9

Safety Valve 26

Heat or Cool 8

Cycling 9

C151: Autoclave Gages - number checked: 208 number okay: 201

Deficiencies

Size 0

Graduations 2

Accuracy 4

Other (capacity) 2

C490: Comparator - number checked: 200 number okay: 184

Deficiencies

0.3" Travel 0

Bar 0

Accuracy 1

Other (terminals) 16

C490: Bar Molds - number checked: 1296 number okay: 1291

Deficiencies

Dimensions 5

Studs 0

C1005: Graduates - number checked: 428 number okay: 422

Deficiencies

Graduations 0

Marked TD 1

Accuracy 0

Other 5

C230: Flow Table - number checked: 229 number okay: 217

Deficiencies

Table Top 7

Shaft 4

Drive 0

Mounting 3

C230: Flow Table - continued - number checked: 229 number okay: 214

Deficiencies

Pedestal 1

Cork Pads 9

Flow Test 1

Other 6

C230: Flow Equipment - number checked: 229 number okay: 221

Deficiencies

Mold 2

Shield 1

Calipers 5

C109: Compression Machines - number checked: 206 number okay: 190

Deficiencies

Indication 9

Max Hand 4

Capsules 1

Other 4

C109: Upper Bearing Block - number checked: 209 number okay: 196

Deficiencies

Diameter 3

Planeness 8

Design 0

Other 2

C109: Lower Bearing Block - number checked: 209 number okay: 202

Deficiencies

Diameter 4

Planeness 3

C109: Cube Molds - number checked: 3346 number okay: 3268

Deficiencies

Dimensions 48

Angles 26

Planeness 6

C1005: Mix Balances - number checked: 288 number okay: 287

Deficiencies

Accuracy 0

Sensitivity 0

Shift 0

Other 1

C1005: Set of Mix Weights - number checked: 44 number okay: 36

Deficiencies

Container 0

Accuracy 1

Annual verification 7

C187and C191: Vicat Apparatus - number checked: 382 number okay: 374

Deficiencies

Plunger 1

Needle 7

Weight 0

Scale 0

C187and C191: Vicat Rings - number checked: 1115 number okay: 1107

Deficiencies

Height 8

Top 1

Bottom 0

Material 0

C266: Initial Gillmore Needle - number checked: 176 number okay: 176

C266: Final Gillmore Needle - number checked: 176 number okay: 176

C305: Mechanical Mixer - number checked: 286 number okay: 229

Deficiencies

Speed 3

Paddle and Bowl 7

Adjustment Bracket 5

Condition (including clearances) 44

C185: Air Content Apparatus - number checked: 235 number okay: 227

Deficiencies

Measures 5

Accessories 4

Other 2

C204: Blaine Apparatus - number checked: 218 number okay: 139

Deficiencies

Cell 4

Plunger and Disk 13

Calibration and Standardization 66

Manometer 12

C1506: Water Retention Apparatus - number checked: 83 number okay: 70

Deficiencies

Dish 2

Apparatus 3

Accessories 1

Other (gage/manometer) 7

C1506: Water Retention Procedure - number checked: 90 number okay: 76

Deficiencies

Mixing 4

First Flow Test 3

Pulling Vacuum and Remixing 6

Second Flow Test 1

C187: Normal Consistency Procedure - number checked: 199 number okay: 179

Deficiencies

Sample Weight 1

Times 16

Paste Tossed 2

Strike-off 2

C191: Vicat Time of Set Procedure - number checked: 194 number okay: 171

Deficiencies

Times 17

Interpolation 8

Distances 2

C266: Gillmore Pat Procedure - number checked: 163 number okay: 143

Deficiencies

Technique 12

Dimensions 11

Other (material amount) 4

C151: Autoclave Bar Procedure - number checked: 194 number okay: 189

Deficiencies

Technique 1
Studs Oiled 2
Other (cool down) 4

C151: Autoclave Procedure - number checked: 193 number okay: 184

Deficiencies

Heat Time 0
Cool Time 0
Water Temperature 8
Other (blotting, testing time after molding) 2

C109: Compressive Strength Procedure - number checked: 202 number okay: 131

Deficiencies

Mixing 13
Flow Test 25
Molding 32
Mold Sealed 33

C185: Air Content Procedure - number checked: 197 number okay: 158

Deficiencies

Mixing 2
Flow Test 13
Filling Cup 21
Other (tamping broadside) 12

C430: No. 325 Fineness Procedure - number checked: 191 number okay: 164

Deficiencies

Technique 5
Times 0
Rinse and Blot 22
Other 3

C115: Wagner Fineness Procedure - number checked: 14 number okay: 14

C204: Blaine Fineness Procedure - number checked: 191 number okay: 164

Deficiencies

Weight 0
Bed Preparation 5
Leakage and Timing 6
Temperature and Calculations 16

C451: Early Stiffening Procedure - number checked: 171 number okay: 152

Deficiencies

Mixing 1

20 seconds Initial Penetration 15

5 minutes Final Penetration 1

Other (rod settling, molding) 2

General Information - number checked: 201 number okay: 190

Deficiencies

Current Test Methods 2

Storage Containers 0

Pass No. 20 Sieve 9

Other (specimen tolerances) 1

Sieves - number checked: 771 number okay: 754

Deficiencies

Screen 9

Frame 1

Other (missing sieves, numbered sieve) 7

Splitter - number checked: 204 number okay: 194

Deficiencies

Chutes 4

Feeder 3

Pans 4

Sands - number checked: 243 number okay: 232

Deficiencies

20-30 sand 10

C109 sand 9

Air Entrainment 2

33rd Tour Summary of Pozzolan Inspections

Number of inspections covered: 72

C511: Moist Storage - number checked: 65 number okay: 46

Deficiencies

Temperature 2

Humidity and Surface Moisture 5

Thermostatically Controlled 1

Recording Thermometer (including verification) 13

C511: Water Storage - number checked: 64 number okay: 52

Deficiencies

Temperature 1

Thermostatically Controlled 0

Recording Thermometer (including verification) 10

Other (lime; cleaned) 1

C511: Temperature Recorder - number checked: 63 number okay: 47

Deficiencies

Available 2

Recorder Requirements 7

Recorder Verification 11

Reference Thermometer 3

C490: Work Room - number checked: 66 number okay: 59

Deficiencies

Temperature 1

Humidity 6

Mix Water Temperatures - number checked: 65 number okay: 63

Deficiencies

Temperature 2

Warm Storage - number checked: 13 number okay: 13

Drying Rooms / Shrinkage - number checked: 15 number okay: 11

Deficiencies

Temperature 2

Humidity 2

Atmometer 2

Evaporation 4

Sieves - number checked: 322 number okay: 317

Deficiencies

Screen 1

Frame 0

Other 4

C430: No. 325 Sieves - number checked: 282 number okay: 239

Deficiencies

Frame 1

Screen 9

Holes Open 1

Correction Factor 36

C430: Wet Sieve Gages - number checked: 78 number okay: 76

Deficiencies

Size 0

Graduations 1

Accuracy 0

Other 1

C430: Wet Sieve Spray Nozzles - number checked: 76 number okay: 74

Deficiencies

Size 0

Spray Pattern 0

Flow Rate 2

Other 0

C151: Autoclaves - number checked: 73 number okay: 55

Deficiencies

Thermometer 3

Safety Valve 9

Heat or Cool 1

Cycling 5

C151: Autoclave Gages - number checked: 72 number okay: 72

C490: Comparator - number checked: 59 number okay: 57

Deficiencies

Movement 0

Bar 0

Accuracy 0

Other 2

C490: Bar Molds - number checked: 637 number okay: 636

Deficiencies

Dimensions 1

Studs 0

Demolding Device 0

C1005: Graduates - number checked: 139 number okay: 135

Deficiencies

Graduations 0

Marked TD 0

Accuracy 0

Other 4

C230: Flow Table - number checked: 75 number okay: 72

Deficiencies

Table Top 1

Shaft 1

Drive 0

Mounting 1

C230: Flow Apparatus - number checked: 75 number okay: 72

Deficiencies

Pedestal 0

Cork Pads 2

Flow Test 0

Other 1

C230: Flow Equipment - number checked: 74 number okay: 73

Deficiencies

Mold 0

Shield 0

Calipers 1

C109: Compression Machines - number checked: 63 number okay: 56

Deficiencies

Indication 5

Max Hand 1

Capsules 0

Other 2

C109: Upper Bearing Block - number checked: 66 number okay: 62

Deficiencies

Diameter 1

Planeness 2

Design 0

Other 1

C109: Lower Bearing Block - number checked: 65 number okay: 63

Deficiencies

Diameter 1

Planeness 1

C109: Cube Molds - number checked: 1203 number okay: 1171

Deficiencies

Dimensions 22

Angles 11

Planeness 0

C1005: Mix Balances - number checked: 107 number okay: 107

C1005: Set of Mix Weights - number checked: 6 number okay: 4

Deficiencies

Container 0

Accuracy 0

Other 2

C305: Mechanical Mixer - number checked: 100 number okay: 81

Deficiencies

Speed 1

Paddle & Bowl 2

Adjustment Bracket 3

Condition (including clearances) 14

C185: Air Content Apparatus - number checked: 47 number okay: 44

Deficiencies

Measures 2

Tamper 0

Other 1

C187and C191: Vicat Apparatus - number checked: 93 number okay: 92

Deficiencies

Plunger 1

Needle 0

Weight 0

Scale 0

C187 and C191: Vicat Rings - number checked: 284 number okay: 284

C188: Density - number checked: 59 number okay: 58

Deficiencies

Le Chatelier Flask 0

Stereopycnometer 1

Marked TC 0

Graduation 0

C311, C441 and C227: Controlling Alkali-Silica Reactions - number checked: 17 number okay: 15

Deficiencies

Containers 1

Wicking 1

Supports 1

C311 and C114: Loss of Ignition - number checked: 67 number okay: 65

Deficiencies

Crucible 0

Balance 0

Furnace 1

Other 1

C311, C151 and C187: Mix Proportions Soundness - number checked: 57 number okay: 55

Deficiencies

Cement 1

Pozzolan 1

Water 0

Other 1

C311 and C109: Mix Proportions Strength Activity Index - number checked: 58 number okay: 57

Deficiencies

Control 1

Test 1

Flow 0

C311 and C157: Mix Proportions Shrinkage - number checked: 17 number okay: 17

C311 and C441: Mix Proportions Alkali-Silica - number checked: 14 number okay: 14

C311 and C185: Mix Proportions Air Entrainment - number checked: 17 number okay: 15

Deficiencies

Proportions 2

Resin 2

Water 0

Other 1

C311 and C1012: Mix Proportions Effectiveness of Admixtures in Contributing to Sulfate Resistance -
number checked: 11 number okay: 10

Deficiencies

Control 1

Test 0

Water 0

C187: Normal Consistency Procedure - number checked: 57 number okay: 51

Deficiencies

Sample Weights 0

Times 6

Paste Tossed 0

Strike off 0

C151: Autoclave Bar Procedure - number checked: 56 number okay: 56

C151: Autoclave Procedure - number checked: 56 number okay: 54

Deficiencies

Heat Time 0

Cool Time 0

Water Temperature 2

C311 and C1012: Effectiveness of Admixtures Procedure - number checked: 13 number okay: 12

Deficiencies

Measurements 0

Cubes 1

Storage 0

C305 and C109: Strength Activity Index with Portland Cement Procedure - number checked: 61
number okay: 52

Deficiencies

Mixing 1

Flow Test 0

Molding 9

Curing 0

C311 and C157: Drying Shrinkage Procedure - number checked: 14 number okay: 14

C311, C441 and C227: Controlling Alkali-Silica Reactions Procedure - number checked: 14 number
okay: 14

C185: Air Content Procedure - number checked: 26 number okay: 21

Deficiencies

Mixing 0

Flow Test 1

Filling Cup 2

Other 2

C430: No. 325 Sieve Fineness Procedure - number checked: 69 number okay: 65

Deficiencies

Technique 1

Time 1

Rinse and Blot 2

C311 and C114: Loss of Ignition Procedure - number checked: 67 number okay: 59

Deficiencies

Sample Weight 1

Temperature 0

Reheat 7

Calculations 0

C311 and C188: Density Procedure - number checked: 61 number okay: 58

Deficiencies

Sample Weight 1

Sample Added 1

Flask Level Read and Recorded 1

General Information - number checked: 70 number okay: 64

Deficiencies

Current Test Methods 6

Storage Containers 0

Pass No. 20 Sieve 0

Splitter - number checked: 67 number okay: 64

Deficiencies

Chutes 0

Feeder 2

Pans 1

Sands - number checked: 69 number okay: 65

Deficiencies

20-30 sand 4

C109 sand 4

Air Entrainment 2

33rd Tour Summary of Masonry Quality System Inspections

Number of inspections covered: 54

Quality System - number checked: 54 number okay: 48

Deficiencies

Revision date 3

Quality Manager 0

Organization information complete 2

Other 3

Quality Control - number checked: 54 number okay: 49

Deficiencies

Standard test methods 5

Procedures for test records/reports 3

Test Report/Test Records - number checked: 54 number okay: 49

Deficiencies

Report identification 0

Dates 2

Standard test method 3

Other 2

Human Resources - number checked: 54 number okay: 48

Deficiencies

Written Procedure for Training 2

Written Procedure for Performance Evaluation 4

Technicians' Records 2

Other 4

Staff Qualifications - number checked: 54 number okay: 54

Quality Assurance - number checked: 54 number okay: 48

Deficiencies

Corrective Actions 4

Internal Quality System Review 5

Subcontracting 1

Proficiency Sample Testing - number checked: 54 number okay: 33

Deficiencies

Masonry Mortar 4

CMU 14

Facing Brick 6

Other (Records maintained) 1

Sample Management Procedures - number checked: 54 number okay: 48

Deficiencies

Sample ID 2

Storage 1

Retention 2

Disposal 5

Inventory - number checked: 54 number okay: 49

Deficiencies

Available 1

Specific criteria 4

Equipment - number checked: 54 number okay: 32

Deficiencies

Verified 12

Frequency 15

Records 9

Written procedures 4

33rd Tour Summary of Mortar Inspections

Number of inspections covered: 12

C511: Moist Storage - number checked: 12 number okay: 7

Deficiencies

Temperature 4

Humidity and Surface Moisture 2

Thermostatically Controlled 2

Recording Thermometer (including verification) 3

C511: Water Storage - number checked: 5 number okay: 3

Deficiencies

Temperature 2

Thermostatically Controlled 0

Recording Thermometer (including verification) 0

C511: Temperature Recorder - number checked: 12 number okay: 10

Deficiencies

Available 1

Recorder Requirements 1

Recorder Verification 0

Reference Thermometer 0

C490: Work Room - number checked: 12 number okay: 10

Deficiencies

Temperature 0

Humidity 2

Mix Water Temperatures - number checked: 11 number okay: 11

C1005: Graduates - number checked: 20 number okay: 19

Deficiencies

Graduations 0

Marked TD 0

Accuracy 0

Other 1

C230: Flow Table - number checked: 13 number okay: 9

Deficiencies

Table Top 0

Shaft 2

Drive 2

Mounting 0

C230: Flow Table - continued - number checked: 13 number okay: 11

Deficiencies

Pedestal 1
Cork Pads 1
Flow Test 0

C230: Flow Equipment - number checked: 13 number okay: 12

Deficiencies

Mold 0
Shield 1
Calipers 0

C109: Compression Machines - number checked: 12 number okay: 10

Deficiencies

Indication 2
Max Hand 0
Capsules 0

C109: Upper Bearing Block - number checked: 13 number okay: 12

Deficiencies

Diameter 0
Planeness 1
Design 0

C109: Lower Bearing Block - number checked: 12 number okay: 12

C109: Cube Molds - number checked: 109 number okay: 101

Deficiencies

Dimensions 7
Angles 2
Planeness 0

C1005: Mix Balances - number checked: 16 number okay: 16

C1005: Set of Mix Weights - number checked: 3 number okay: 3

C305: Mechanical Mixer - number checked: 15 number okay: 7

Deficiencies

Speed 1
Paddle and Bowl 3
Adjustment Bracket 4
Condition (including clearances) 5

C185: Air Content Apparatus - number checked: 14 number okay: 13

Deficiencies

Measures 0
Accessories 0
Other 1

C1506: Water Retention Apparatus - number checked: 9 number okay: 7

Deficiencies

Dish 0

Apparatus 0

Accessories 0

Other (gage/manometer) 2

C270: Masonry Mortar Procedures - number checked: 12 number okay: 12

C109: Compressive Strength Procedure - number checked: 12 number okay: 7

Deficiencies

Mixing 2

Flow Test 1

Molding 4

Mold Sealed 2

C1506: Water Retention Procedure - number checked: 9 number okay: 8

Deficiencies

Mixing 0

First Flow Test 1

Pulling Vacuum and Remixing 0

Second Flow Test 1

C185: Air Content Procedure - number checked: 12 number okay: 8

Deficiencies

Mixing 0

Flow Test 0

Filling Cup 1

Other (tamping broadside) 3

33rd Tour Summary of CMU Inspections

Number of inspections covered: 53

Sampling and Identifying - number checked: 53 number okay: 53

Deficiencies

Measurement of Dimensions of CMUs (Equipment) - number checked: 53 number okay: 11

Deficiencies

Steel scale 0

Calipers 42

Measurement of Dimensions of CMUs (Procedure) - number checked: 53 number okay: 47

Deficiencies

Three units measured 0

Length/Width/Height measured correctly 5

Thickness measured correctly 2

Minimum web thickness wrong 2

Bearing Blocks - number checked: 55 number okay: 48

Deficiencies

Planeness 7

Spherically seated 0

Minimum diameter 0

Bearing Plates - number checked: 31 number okay: 29

Deficiencies

Thickness 2

Length/Width dimensions 0

Planeness 1

Compression Machine - number checked: 53 number okay: 43

Deficiencies

Indication 8

Maximum Load Indication 1

Capsule clearances 0

Other 3

Capping Plates - number checked: 38 number okay: 28

Deficiencies

Steel 1

Thickness 3

Level 0

Planeness 7

Casting Plates - number checked: 26 number okay: 19

Deficiencies

Transparent glass 1

Thickness 4

Planeness 3

Capping Material (Sulfur) - number checked: 32 number okay: 25

Deficiencies

Caps allowed 2 hours to harden 0

Strength verification data 6

Thickness 0

Planeness 2

Capping Procedure (Sulfur) - number checked: 32 number okay: 21

Deficiencies

Specimens saw-cut as necessary 0

Bar arrangement 5

Unit held at right angles 0

Other 8

Capping Material (Gypsum) - number checked: 22 number okay: 21

Deficiencies

Thickness 1

Allowed two hours to harden 1

Planeness 1

Capping Procedure (Gypsum) - number checked: 22 number okay: 22

Compressive Strength Procedure - number checked: 53 number okay: 47

Deficiencies

Moisture free 0

Centroid aligned 1

Load rate 5

Absorption and Moisture Content (Equipment) - number checked: 52 number okay: 50

Deficiencies

Balance 0

Oven 2

Absorption and Moisture Content (Procedure) - number checked: 52 number okay: 48

Deficiencies

Wet weight 1

SSD weight 4

Dry weight 1

Number of samples/Sample configuration/Calculations 0

33rd Tour Summary of Brick Inspections

Number of brick inspections covered: 10

Specimen Preparation (Equipment) - number checked: 9 number okay: 9

Specimen Preparation (Procedure) - number checked: 9 number okay: 9

Dimensions of Brick (Procedure) - number checked: 9 number okay: 8

Deficiencies:

Correct number of measurements 0

Length measurement 1

Width measurement 1

Height measurement 1

Capping Procedure (Sulfur) - number checked: 6 number okay: 3

Deficiencies:

Bar arrangement 2

Surface flat 0

Specimen held at right angle 0

Other 1

Capping Procedure (Gypsum) - number checked: 3 number okay: 3

Compressive Strength Procedure - number checked: 9 number okay: 9

Absorption (Equipment) - number checked: 7 number okay: 6

Deficiencies:

Balance 0

Oven 1

Absorption (Procedure – Submersion) - number checked: 7 number okay: 7

Absorption (Procedure – Boiling) - number checked: 7 number okay: 7

Initial Rate of Absorption (Equipment) - number checked: 3 number okay: 2

Deficiencies:

Containers 1

Brick supports 0

Control of water level 0

Initial Rate of Absorption (Procedure) - number checked: 3 number okay: 3

Bearing Blocks - number checked: 10 number okay: 10

Bearing Plates - number checked: 6 number okay: 6

Compression Machine - number checked: 9 number okay: 6

Deficiencies:

Indication 2

Maximum Load Indication 1

Capsule clearances 0

Other 0

Dimensions of Brick (Equipment) - number checked: 9 number okay: 9

Capping Plate - number checked: 8 number okay: 7

Deficiencies:

Planeness 1

Dimensions 0

Other 0

Capping Material (Sulfur) - number checked: 6 number okay: 6

Capping Material (Gypsum) - number checked: 3 number okay: 2

Deficiencies:

Thickness 0

Allowed two hours to harden 0

Shellac 1