


CTL THOMPSON Bituminous Density
Report Date: 11/7/2017
Test Method: ASTM D2950

Client:
 City of Fort Collins Engineering Department
 Engineering Department 281 N. College Avenue
 Fort Collins , CO 80522-0580

Project:
 FC08130.000-355
 Miscellaneous Testing-COFC Engineering
 Various

 Fort Collins
 400 North Link Lane
 Fort Collins, CO 80524
 Phone: 970-206-9455

Test Results															
Test #	Retest Of	Test Date	Test Location	Material	Mix Design	Thickness (in)	Max Wet Density (pcf)	Max Density Source	In Place Density (pcf)	Probe Depth (in)	Percent Comp.	Min/Max Comp. (%)	Remark	Gauge SN	Technician
1		10/26/17	Street Asphalt: Chestnut St between Walnut St and Jefferson St. North side parking pad on the southwest bound side of the street. Test on street entry into parking garage passed, no other tests performed due to shallow utilities.	Base Lift 1	S 75 PG 64-22 RAP	2	154.0	10/25/17 Sample No. 1 Mix #5493 / Rice	141.0	Backscatter	92	92 / 96	A	32674	Olson, Todd
Remarks								Comments							
A: Test results comply with specifications.								Tests are "Direct Transmission" (Method A) unless probe depth is noted as "Backscatter"							
Gauge Information															
Gauge SN	Make	Model	Density Count	Moisture Count	Standard Count Date	Last Calibration Date	Last Calibrated By								
32674	TROX	3430	2371	689	10/26/17										

This report presents opinions formed as a result of our observations of asphalt placement and the test results shown above. Test data are not the sole basis for opinions whether the asphalt meets project specifications. The contractor is responsible to apply necessary compaction effort to comply with project specifications. Our test results, observations and opinions do not constitute acceptance of the work.

**Asphalt Concrete
Material Analysis**



Client: City of Fort Collins Engineering Department
281 N. College Avenue
P.O. Box 580
Fort Collins, CO 80522

Project No: FC08130 Phase: 355
 Project Name: Miscellaneous Testing-COFC Engineering
 Sample Location.: Southwestbound lane of Chestnut St,
50 feet southwest of Jefferson St.

Sieve Size	Supplier: Martin Marietta S 75 PG 64-22 RAP		Percent Passing	
	Mix Design	Project Tolerance	Master Range	Sample: 1 Date: 10/25/17 Plant: Taft Hill
2 INCH				
1 1/2 INCH				
1 INCH		100	100	
3/4 INCH	100	90 - 100	90 - 100	100
1/2 INCH	88	82 - 94		87
3/8 INCH	79	73 - 85		79
NO. 4	65	60 - 70		62
NO. 8	43	38 - 48	23 - 49	42
NO. 16	31			30
NO. 30	21	17 - 25		21
NO. 50	14			13
NO. 100	9			10
NO. 200	5.9	3.9 - 7.9	2.0 - 8.0	5.3
Asphalt Content	5.3	5.0 - 5.6		5.0
Theoretical Maximum Specific Gravity	153.7			154

L: LESS THAN TOLERANCE
 G: GREATER THAN TOLERANCE



Greeley 35th Ave. Asphalt
 925 N.35th Avenue
 Greeley, CO 80631
 Phone: 970-534-0272

Superpave Compliance Report

Sample Information

Sample No 1645292106
 Mix ID 5493
 Mix Name 2017 - S75(64-22)20%
 Mix Class Intermediate Course
 Specification CDOT S
 Date Sampled 10/29/2017 12:51
 Sample Type Production
 Sample Method Rail Car

Properties

Test	Result	JMF	Tolerances	Method
AC Content (Pb) %	5.37	5.2	5-5.4	Ignition Burn

Results

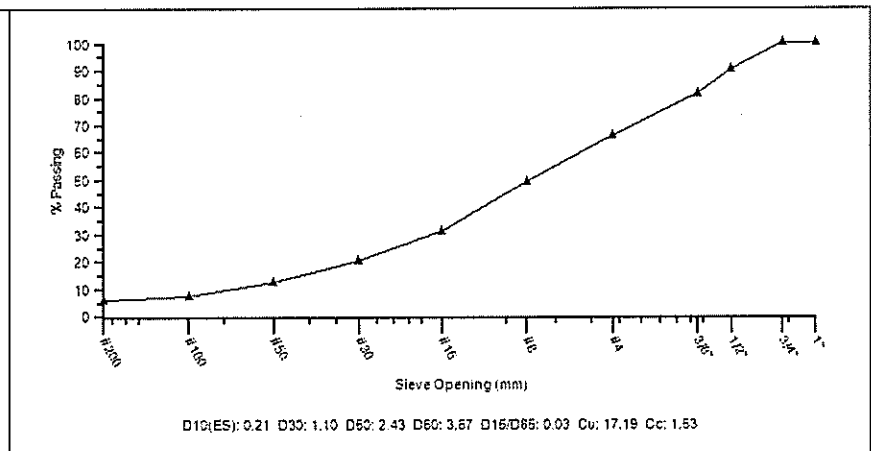
Method
 Dry Aggregate Mass 2431.2
 Gsb
 Compaction Temp
 Mix Temp

Notes

Job # 73538FC Hotel Chesnut/Walnut

Gradation Results

Sieve	%Passing	JMF	Tolerances
1" (25mm)	100	100	100-100
3/4" (19mm)	100	99	95-100
1/2" (12.5mm)	90	88	83-93
3/8" (9.5mm)	81	80	75-85
#4 (4.75mm)	66	65	61-69
#8 (2.36mm)	49	46	42-50
#16 (1.18mm)	31	32	
#30 (0.6mm)	21	22	19-25
#50 (0.3mm)	12	14	
#100 (0.15mm)	7	10	
#200 (75µm)	6.0	6.2	5-7



Asphalt Core Density Worksheet



Client:	City of Fort Collins	Mix Design No.:	5493
Project Location:	Chestnut/Walnut	Max. SP.G./Density (E):	2.463
Project No.:		Nuclear Gauge No.:	32439
Date Placed:	10/23/2017	Date Cored:	10/28/2017
Tested By:	Kevin Sawyer	Date Tested:	10/29/2017

Core No.	Lift	Thickness (in)	B				A		D		F		G		H		(G-H)	
			Submerged Weight	SSD Weight	Pan Weight	Pan and Dry Core Weight	Dry Core Weight	Core Specific Gravity (Gmb)	Core Density (pcf)	Compaction (%)	Nuclear Gauge Density (pcf)	Difference (pcf)						
1	1st	2 1/8	556.4	975.4	34.6	1005.4	970.8	2.317	144.6	94.1	138.6	6.0						
2	1st	2 3/4	695.5	1222.3	34.2	1251	1216.8	2.310	144.1	93.8	140.2	3.9						
3	1st	2	509.4	896.8	34.2	925.1	890.9	2.300	143.5	93.4	137.8	5.7						
											Corr. Factor =	5.2						

Fill in Shaded areas
Revised 8/4/11

Positive Number- add to Wet Density from Nuke, Negative number- Subtract from Wet Density from Nuke Gauge.

Gmb (D) = $\frac{A}{(B-C)}$
Compaction (F) = $(D/E)*100$

Core Density (G) = $(D*62.4)$ *verify 62.4/62.24



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