



Department of Design and Construction

Eduardo N. del Valle
Acting Commissioner

Safety & Site Support Division
Office of Quality Assurance

Alla Ayzenshtat
Deputy Commissioner
Safety & Site Support

Concrete and Asphalt Generic Mix Design Approval # 2025 – 126

30-30 Thomson Avenue
Long Island City, NY 11101

Tel. 718 / 391-1624
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Date: 12/19/2025

To: City Asphalt,
Maxon Thomas

From: Juan Martinez, PE, Director
Office of Quality Assurance

Date Submitted: 12/16/2025

Plant: City Asphalt

NYSDOT Facility Numbers: H0395

Laboratory: N/A

Mix Design Type: 6 FRA Top (PEM draft specifications compliant)

Generic Mix Design Serial Number: CityAsphalt/6RA/Top/Generic/NYCDDC/12/25/126

Generic Mix Design Date: 11/21/2025

Generic Mix Design Expiration Date: 12/31/2027

Comments: 1) This mix design is approved only for the NYSDOT Facility Numbers listed above.
2) Approval is valid only if facilities listed above remain on the DDC OQA Approved list of Concrete and/or Asphalt Plants.
3) Approval is limited to the material sources and aggregate sizes shown on the mix design.
4) Dosage of admixtures may be adjusted by the plant within manufacturer's written guidelines, but admixtures not listed may not be added.

Reviewed & Prepared by: Scott Cruz, QA Inspector

Recommended for Acceptance by: Alfred Roman, Engineer In Charge

QA & CONSTRUCTION SAFETY BUREAU

ASPHALT JOB MIX FORMULA SHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt
 NYSDOT FACILITY #: H0395
 PLANT ADDRESS: 1900 South Ave.
Staten Island, NY 10314

MIX DESIGN DATE: 11/21/2025
 PREPARED BY: Maxon Thomas
 COMPANY: City Asphalt
 PLANT QC MGR: Maxon Thomas

Item	Supplier / Quarry	NYSDOT Source	Friction Agg.	Agg. Blend %	Mix %	Lbs / Ton
					0.0%	0
#1 Stone	Tilcon - West Nyack, NY	8-8R	Yes	21.0%	20.3%	407
#1A Stone	Tilcon - Clinton Point, NY	8-9R	No	24.5%	23.7%	474
					0.0%	0
Manufactured Sand	Tilcon - Clinton Point NY	8-9 RFM	N/A	14.3%	13.8%	277
			N/A		0.0%	0
Fine RAP	City Asphalt	N/A	Yes	29.6%	28.7%	573
	RAP % Asphalt: 6.2%			RAP AC	1.8%	36
All RAP to be from Municipal Sources - Aggregates from State Quarries				RAP Aggregate	26.9%	537
Coarse RAP	City Asphalt	N/A	Yes	10.6%	10.3%	205
	RAP % Asphalt: 3.2%			RAP AC	0.3%	6
All RAP to be from Municipal Sources - Aggregates from State Quarries				RAP Aggregate	10.0%	199
Virgin Asphalt	Grade: PG64-22	SG (G _b):	1.036		3.2%	64
Total Asphalt Content (P _b)					5.3%	106
				100.0%	100.0%	2,000

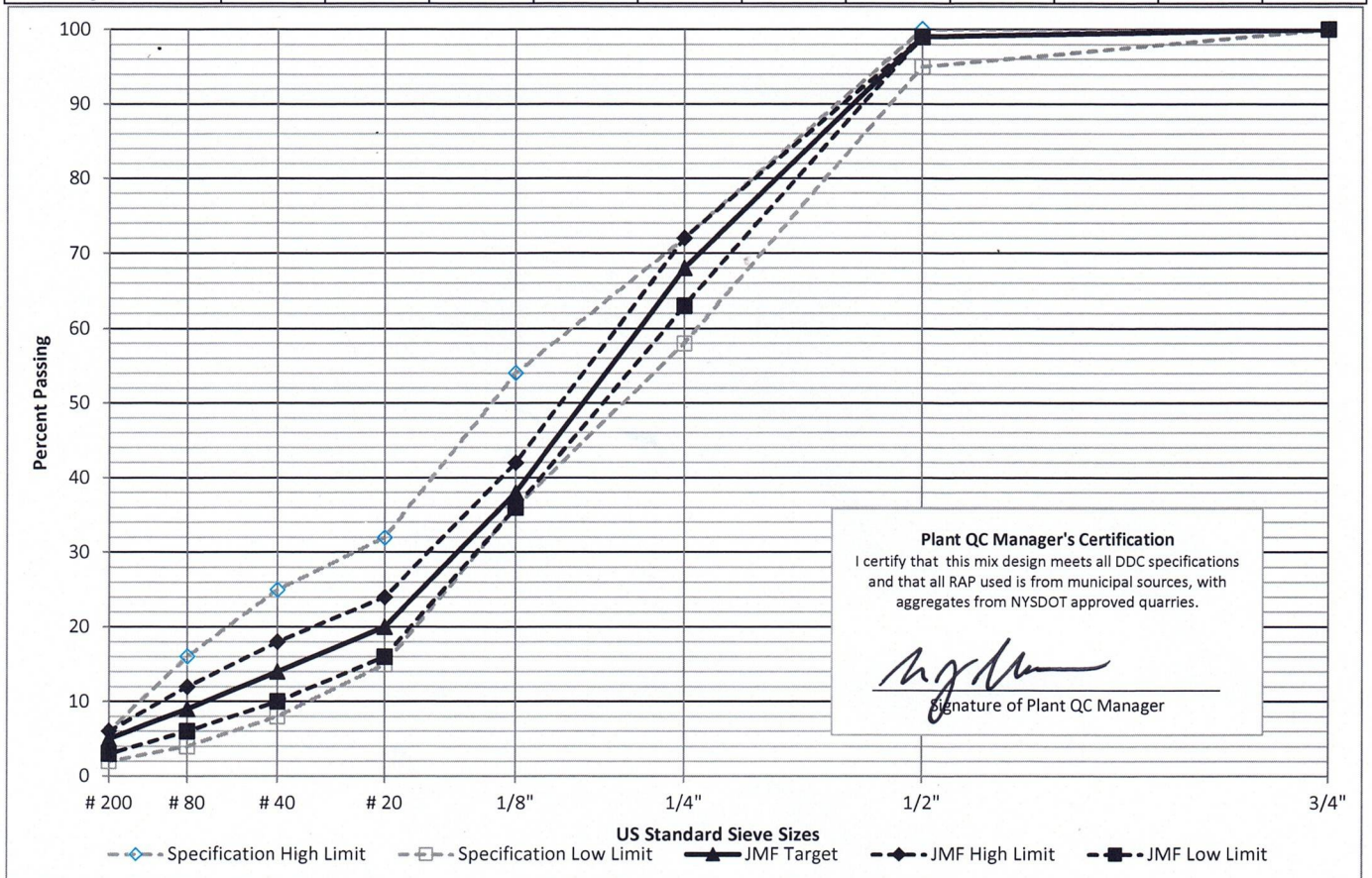
Project No: **Generic**
"APPROVED"
 NYC DDC - Office of Quality Assurance
 Date: 12/19/25 Reviewed By: S.C.
 LOG No: 2025-126

QA&CS APPROVAL STAMP

CityAsphalt/6FRA/Top/Generic/NYCDDC/12/25/126 Expiration: 12/31/2027

QA&CS SERIAL NUMBER & EXPIRATION DATE

Sieve Size	1-1/2"	1"	3/4"	1/2"	1/4"	1/8"	# 20	# 40	# 80	# 200	P _b
Specification Limits	100-100	100-100	100-100	95-100	58-72	36-54	15-32	8-25	4-16	2-6	5-6.2
JMF Target	100	100	100	99	68	38	20	14	9	5	5.3
JMF Range	100-100	100-100	100-100	99-99	63-72	36-42	16-24	10-18	6-12	3-6	5-6



QA & CONSTRUCTION SAFETY BUREAU

ASPHALT COMBINED GRADATION WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 11/21/2025

Average Bin Gradations

	Not Used		#1 Stone		#1A Stone		Not Used		Manufactured Sand		Not Used		Fine RAP		Coarse RAP	
Sieve	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass
1.5"		100.0	0.0	100.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	0.0	100.0
1"		100.0	0.0	100.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	0.0	100.0
3/4"		100.0	0.0	100.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	0.0	100.0
1/2"		100.0	3.2	96.8	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	3.8	96.2
1/4"		100.0	81.0	15.8	24.9	75.1		100.0	0.0	100.0		100.0	4.6	95.4	63.5	32.7
1/8"		100.0	12.9	2.9	66.1	9.0		100.0	8.6	91.4		100.0	28.7	66.7	10.5	22.2
#20		100.0	1.0	1.9	8.4	0.6		100.0	53.2	38.2		100.0	25.7	41.0	7.2	15.0
#40		100.0	0.2	1.7	0.2	0.4		100.0	15.3	22.9		100.0	10.7	30.3	3.0	12.0
#80		100.0	0.4	1.3	0.2	0.2		100.0	10.8	12.1		100.0	11.4	18.9	3.7	8.3
#200		100.0	0.4	0.9	0.1	0.1		100.0	6.8	5.3		100.0	7.3	11.6	2.4	5.9
Pan			0.9		0.1				5.3				11.6		5.9	
Totals	0.0		100.0		100.0		0.0		100.0		0.0		100.0		100.0	

Stockpiles Sampled By: Maxon Thomas Date Sampled: 10/9/2025

Gradation Technician: Maxon Thomas Date Tested: 10/9/2025

Coarse Aggregate Specific Gravity per ASTM C127

Discard portion of sample that passes the 1/8 sieve.

Only Perform this test if aggregate is 10% or more coarse (less than 90% passing the 1/8" sieve)

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
% Coarse Agg.	---	97.1%	91.0%	---	8.6%	---	33.3%	77.8%
Test Required?	NO	YES	YES	NO	NO	NO	YES	YES
A) Wt. in Air		1432.4	969.7				986.7	986.7
B) Wt. SSD		1446.0	989.0				995.4	995.4
C) Wt. in Water		948.0	643.5				633.5	633.5
G _{sb} (A)/(B-C)	---	2.876	2.807	---	---	---	2.726	2.726
G _{sa} (A)/(A-C)	---	2.957	2.973	---	---	---	2.794	2.794

Fine Aggregate Specific Gravity per ASTM C128

Discard portion of sample that does not pass the #4 sieve.

Only Perform this test if 10% or more passes the 1/8" Sieve.

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
% Fine Agg.	---	2.9%	9.0%	---	91.4%	---	66.7%	22.2%
Test Required?	NO	NO	NO	NO	YES	NO	YES	YES
A) Wt. in Air					495.4		494.6	494.6
B) Wt. Flask + Water					646.0		648.0	648.0
C) Wt. Flask + Water + Sample					962.0		973.1	973.1
S) Wt. SSD					500.0		499.0	499.0
G _{sb} (A)/(B+S-C)	---	---	---	---	2.692	---	2.844	2.844
G _{sa} (A)/(B+A-C)	---	---	---	---	2.761	---	2.918	2.918

Combined Aggregate Specific Gravity

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
Combined G _{sb}	---	2.876	2.807	---	2.692	---	2.804	2.752
Combined G _{sa}	---	2.957	2.973	---	2.761	---	2.875	2.820

S. G. Technician: Maxon Thomas Date Tested: 10/9/2025

Combined Average Gradations, % Passing

Bin	Agg Blend	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	21.0	21.0	21.0	20.3	3.3	0.6	0.4	0.4	0.3	0.2
#1A Stone	24.5%	24.5	24.5	24.5	24.5	18.4	2.2	0.1	0.1	0.0	0.0
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	14.3	14.3	14.3	14.3	14.3	13.1	5.5	3.3	1.7	0.8
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	29.6	29.6	29.6	29.6	28.2	19.7	12.1	9.0	5.6	3.4
Coarse RAP	10.6%	10.6	10.6	10.6	10.2	3.5	2.4	1.6	1.3	0.9	0.6
Total	100.0%	100.0	100.0	100.0	98.9	67.7	38.0	19.7	14.0	8.5	5.0
Specification Limits		100-100	100-100	100-100	95-100	58-72	36-54	15-32	8-25	4-16	2-6

QA & CONSTRUCTION SAFETY BUREAU
ASPHALT TRIAL GRADATION WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 11/21/2025

BATCH 1	Batch P _b :	4.3%														
	Batch Grams:	4000.0	Batch Weights, Retained on Sieve - Grams													
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan	
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	20.1%	803.9		0.0	0.0	0.0	25.7	651.1	103.7	8.0	1.6	3.2	3.2	7.2	803.9
#1A Stone	24.5%	23.4%	937.9		0.0	0.0	0.0	0.0	233.5	619.9	78.8	1.9	1.9	0.9	0.9	937.9
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	13.7%	547.4		0.0	0.0	0.0	0.0	0.0	47.1	291.2	83.8	59.1	37.2	29.0	547.4
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	30.2%	1208.0	74.9	0.0	0.0	0.0	0.0	55.6	346.7	310.5	129.3	137.7	88.2	65.2	1208.0
Coarse RAP	10.6%	10.5%	419.2	13.4	0.0	0.0	0.0	15.9	266.2	44.0	30.2	12.6	15.5	10.1	11.3	419.2
Virgin Asphalt		2.1%	83.7	83.7												83.7
Total Mix	100.0%	100.0%	4000.0	172.0	0.0	0.0	0.0	41.7	1206.4	1161.4	718.7	229.1	217.4	139.6	113.7	4000.0

4.30%

BATCH 2	Batch P _b :	4.8%														
	Batch Grams:	4000.0	Batch Weights, Retained on Sieve - Grams													
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan	
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	20.0%	799.7		0.0	0.0	0.0	25.6	647.7	103.2	8.0	1.6	3.2	3.2	7.2	799.7
#1A Stone	24.5%	23.3%	933.0		0.0	0.0	0.0	0.0	232.3	616.7	78.4	1.9	1.9	0.9	0.9	933.0
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	13.6%	544.5		0.0	0.0	0.0	0.0	0.0	46.8	289.7	83.3	58.8	37.0	28.9	544.5
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	30.0%	1201.7	74.5	0.0	0.0	0.0	0.0	55.3	344.9	308.8	128.6	137.0	87.7	64.9	1201.7
Coarse RAP	10.6%	10.4%	417.0	13.3	0.0	0.0	0.0	15.8	264.8	43.8	30.0	12.5	15.4	10.0	11.3	417.0
Virgin Asphalt		2.6%	104.2	104.2												104.2
Total Mix	100.0%	100.0%	4000.0	192.0	0.0	0.0	0.0	41.4	1200.1	1155.3	714.9	227.9	216.3	138.9	113.1	4000.0

4.80%

BATCH 3	Batch P _b :	5.3%													
	Batch Grams:	4000.0													
Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	19.9%	795.5		0.0	0.0	0.0	25.5	644.3	102.6	8.0	1.6	3.2	3.2	7.2
#1A Stone	24.5%	23.2%	928.1		0.0	0.0	0.0	0.0	231.1	613.4	78.0	1.9	1.9	0.9	0.9
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	13.5%	541.7		0.0	0.0	0.0	0.0	0.0	46.6	288.2	82.9	58.5	36.8	28.7
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	29.9%	1195.4	74.1	0.0	0.0	0.0	0.0	55.0	343.1	307.2	127.9	136.3	87.3	64.5
Coarse RAP	10.6%	10.4%	414.8	13.3	0.0	0.0	0.0	15.8	263.4	43.6	29.9	12.4	15.3	10.0	11.2
Virgin Asphalt		3.1%	124.6	124.6											
Total Mix	100.0%	100.0%	4000.0	212.0	0.0	0.0	0.0	41.2	1193.8	1149.3	711.2	226.7	215.2	138.2	112.5

5.30%

BATCH 4		Batch P _b :	5.8%													
		Batch Grams:	4000.0	Batch Weights, Retained on Sieve - Grams												
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan	
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	19.8%	791.3		0.0	0.0	0.0	25.3	640.9	102.1	7.9	1.6	3.2	3.2	7.1	791.3
#1A Stone	24.5%	23.1%	923.2		0.0	0.0	0.0	0.0	229.9	610.2	77.5	1.8	1.8	0.9	0.9	923.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	13.5%	538.8		0.0	0.0	0.0	0.0	0.0	46.3	286.7	82.4	58.2	36.6	28.6	538.8
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	29.7%	1189.0	73.7	0.0	0.0	0.0	0.0	54.7	341.3	305.6	127.2	135.6	86.8	64.2	1189.0
Coarse RAP	10.6%	10.3%	412.6	13.2	0.0	0.0	0.0	15.7	262.0	43.3	29.7	12.4	15.3	9.9	11.1	412.6
Virgin Asphalt		3.6%	145.1	145.1												145.1
Total Mix	100.0%	100.0%	4000.0	232.0	0.0	0.0	0.0	41.0	1187.5	1143.2	707.4	225.5	214.0	137.4	112.0	4000.0

5.80%

BATCH 5		Batch P _b :	6.3%													
		Batch Grams:	4000.0	Batch Weights, Retained on Sieve - Grams												
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan	
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.0%	19.7%	787.1		0.0	0.0	0.0	25.2	637.5	101.5	7.9	1.6	3.1	3.1	7.1	787.1
#1A Stone	24.5%	23.0%	918.3		0.0	0.0	0.0	0.0	228.6	607.0	77.1	1.8	1.8	0.9	0.9	918.3
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	14.3%	13.4%	536.0		0.0	0.0	0.0	0.0	0.0	46.1	285.1	82.0	57.9	36.4	28.4	536.0
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	29.6%	29.6%	1182.7	73.3	0.0	0.0	0.0	0.0	54.4	339.4	304.0	126.6	134.8	86.3	63.9	1182.7
Coarse RAP	10.6%	10.3%	410.4	13.1	0.0	0.0	0.0	15.6	260.6	43.1	29.6	12.3	15.2	9.9	11.1	410.4
Virgin Asphalt		4.1%	165.5	165.5												165.5
Total Mix	100.0%	100.0%	4000.0	252.0	0.0	0.0	0.0	40.8	1181.2	1137.1	703.7	224.3	212.9	136.7	111.4	4000.0

6.30%

QA & CONSTRUCTION SAFETY BUREAU

ASPHALT MAXIMUM DENSITY & MARSHALL PROPERTIES WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt	NYSDOT FACILITY #: H0395	MIX DESIGN DATE: 11/21/2025
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Theoretical Maximum Specific Gravity G_{mm} per ASTM D2041

Trial Batch	1		2		3		4		5	
P_b	4.3%		4.8%		5.3%		5.8%		6.3%	
A) Sample in Air (grams)	1997.7	1999.6	2001.1	1997.3	1997.4	2000.5	1996.3	1998.2	2000.3	1997.3
B) Pycnometer in Water (Grams)	1432.7	1439.8	1432.7	1439.8	1432.7	1439.8	1432.7	1439.8	1432.7	1439.8
C) Sample & Pycnometer in Water (Grams)	2675.5	2678.9	2669.1	2675.2	2662.1	2670.3	2652.0	2663.0	2648.6	2654.7
$G_{mm} (A/(A+B-C))$	2.646	2.629	2.617	2.621	2.601	2.598	2.569	2.578	2.550	2.553
Average G_{mm}	2.638		2.619		2.599		2.574		2.551	

Density Technician: Maxon Thomas	Date Tested: 10/15/2025
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Computation of Marshall Mix Properties (75 Blows per Side)

Weight In Air	SSD Weight	Weight In Water	Sample Volume	Bulk SG G_{mb}	Max SG G_{mm}	% Air P_a	Unit Weight	Meas. Stability	Corr. Factor	Corr. Stability	Marshall Flow	Marshall Quotient
Grams	Grams	Grams	CC	---	---	%	PCF	lbs	lbs	lbs	0.01"	lb/0.01"
A	B	C	D	E	F	G	H	J	K	L	M	N
---	---	---	B-C	A/D	---	(F-E)/F	$E*62.4$	---	---	J*K	---	L/M

TRIAL BATCH 1 $P_b = 4.3\%$												
Specimen A	1291.7	1293.8	771.1	522.7	2.471	2.638	6.32%	2990	1	2990	8.7	344
Specimen B	1288.4	1290.5	768.1	522.4	2.466	2.638	6.51%	3047	1	3050	9.3	328
Specimen C	1289.1	1291.3	768.7	522.6	2.467	2.638	6.49%	3254	1	3250	8.9	365
Average					2.468	2.638	6.44%	154.0		3100	9.0	346

TRIAL BATCH 2 $P_b = 4.8\%$												
Specimen A	1290.2	1291.8	771.2	520.6	2.478	2.619	5.37%	3275	1	3280	9.7	338
Specimen B	1288.3	1290.0	770.1	519.9	2.478	2.619	5.38%	3318	1	3320	9.4	353
Specimen C	1287.8	1289.1	771.0	518.1	2.486	2.619	5.09%	3360	1	3360	10.4	323
Average					2.481	2.619	5.27%	154.8		3320	9.8	338

TRIAL BATCH 3 $P_b = 5.3\%$												
Specimen A	1286.7	1287.9	770.8	517.1	2.488	2.599	4.26%	3255	1	3260	10.6	308
Specimen B	1291.3	1292.2	774.9	517.3	2.496	2.599	3.95%	3280	1	3280	10.9	301
Specimen C	1285.9	1287.1	771.9	515.2	2.496	2.599	3.97%	3319	1	3320	11.3	294
Average					2.493	2.599	4.08%	155.6		3290	10.9	301

TRIAL BATCH 4 $P_b = 5.8\%$												
Specimen A	1289.5	1290.0	775.7	514.3	2.507	2.574	2.59%	3126	1	3130	12.1	259
Specimen B	1290.6	1291.1	775.8	515.3	2.505	2.574	2.70%	3079	1	3080	11.4	270
Specimen C	1288.8	1289.2	774.7	514.5	2.505	2.574	2.68%	3244	1	3240	11.7	277
Average					2.506	2.574	2.64%	156.4		3150	11.7	269

TRIAL BATCH 5 $P_b = 6.3\%$												
Specimen A	1287.8	1288.3	777.7	510.6	2.522	2.551	1.13%	2975	1	2980	12.3	242
Specimen B	1289.3	1290.0	779.4	510.6	2.525	2.551	1.02%	2987	1	2990	12.4	241
Specimen C	1289.7	1290.4	777.9	512.5	2.516	2.551	1.35%	3046	1	3050	11.8	258
Average					2.521	2.551	1.18%	157.3		3010	12.2	247

Marshall Technician: Maxon Thomas	Date Tested: 10/15/2025
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QA & CONSTRUCTION SAFETY BUREAU

MIX VOLUMETRIC PROPERTIES WORKSHEET - 6F RA TOP MIX

PLANT:	City Asphalt	NYSDOT FACILITY #:	H0395	MIX DESIGN DATE:	#####
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Agg. Blend %	Constituent Material	NYSDOT Source	G _{sa}	G _{sb}	Total Mix Composition by Weight				
					Trial Batch				
					1	2	3	4	5
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
21.0%	#1 Stone	8-8R	2.957	2.876	20.1%	20.0%	19.9%	19.8%	19.7%
24.5%	#1A Stone	8-9R	2.973	2.807	23.4%	23.3%	23.2%	23.1%	23.0%
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
14.3%	Manufactured Sand	8-9 RFM	2.761	2.692	13.7%	13.6%	13.5%	13.5%	13.4%
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
29.6%	Fine RAP		2.875	2.804	30.2%	30.0%	29.9%	29.7%	29.6%
10.6%	Coarse RAP		2.820	2.752	10.5%	10.4%	10.4%	10.3%	10.3%
	Virgin Asphalt				2.1%	2.6%	3.1%	3.6%	4.1%
100.0%					100.0%	100.0%	100.0%	100.0%	100.0%

Mix General Properties		Trial Batch				
		1	2	3	4	5
P _b	Percent Total Asphalt Binder, %	4.3%	4.8%	5.3%	5.8%	6.3%
P _{ba}	Percent Absorbed Asphalt Binder, %	0.50%	0.54%	0.55%	0.47%	0.42%
P _{be}	Percent Effective Asphalt Binder, %	3.82%	4.29%	4.78%	5.36%	5.91%
DP	Dust Proportion (0.6 - 1.2 desired)	0.8	0.9	1.0	1.1	1.2
G _{mm}	Mix Maximum Specific Gravity	2.638	2.619	2.599	2.574	2.551
G _{mb}	Mix Bulk Specific Gravity	2.468	2.481	2.493	2.506	2.521
G _{sb}	Aggregate Bulk Gravity	2.797	2.797	2.797	2.797	2.797
G _{se}	Aggregate Effective Gravity	2.835	2.838	2.839	2.833	2.829
G _{sa}	Aggregate Apparent Specific Gravity	2.892	2.892	2.892	2.892	2.892

Mix Acceptance Properties		Low Limit	High Limit	Trial Batch				
				1	2	3	4	5
VMA	Voids in Mineral Aggregate, %	15.5%		✓ 15.6%	✓ 15.6%	✓ 15.6%	✓ 15.6%	✓ 15.5%
Note: All five trial batches must meet the minimum VMA requirement.								
VFA	Voids Filled with Asphalt, %	65%	75%	✗ 58.6%	✓ 66.1%	✓ 73.8%	✗ 83.1%	✗ 92.4%
P _a	Percent Air Voids, %	3.0%	5.0%	✗ 6.4%	✗ 5.3%	✓ 4.1%	✗ 2.6%	✗ 1.2%
---	Marshall Stability (Corrected), lb	1500		✓ 3100	✓ 3320	✓ 3290	✓ 3150	✓ 3010
---	Marshall Flow, 0.01"	8	12	✓ 9.0	✓ 9.8	✓ 10.9	✓ 11.7	✗ 12.2
---	Marshall Quotient, lb/0.01"	150		✓ 346	✓ 338	✓ 301	✓ 269	✓ 247

QA & CONSTRUCTION SAFETY BUREAU

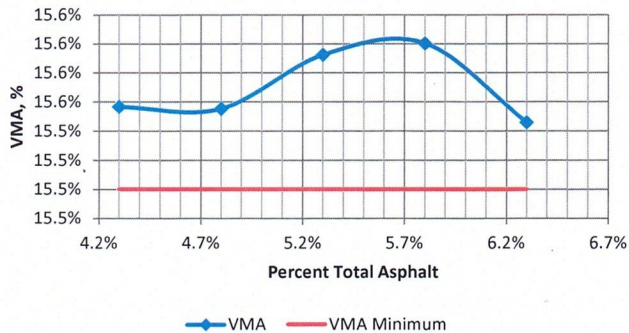
PROPERTY CURVES & DESIRED ASPHALT CONTENT WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

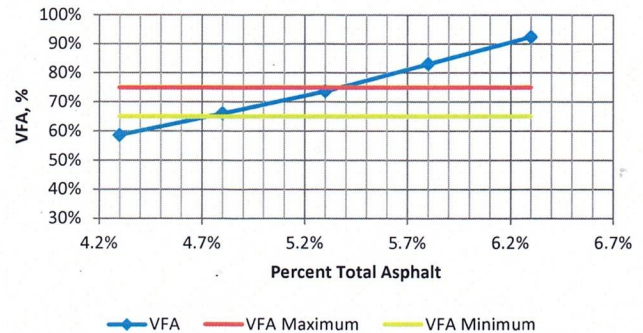
NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 11/21/2025

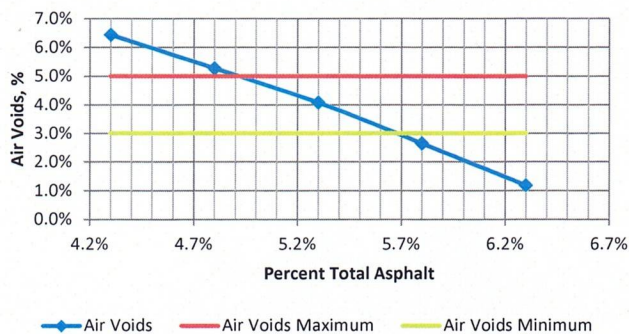
Voids in Mineral Aggregate (VMA)



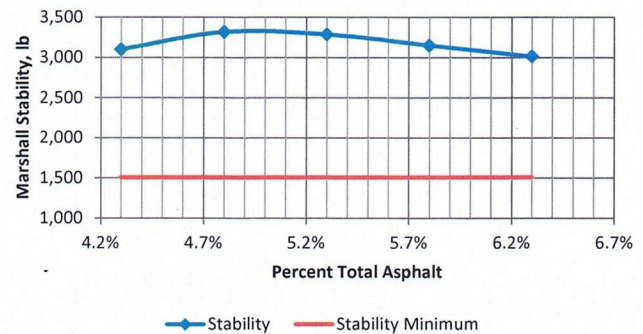
Voids Filled with Asphalt (VFA)



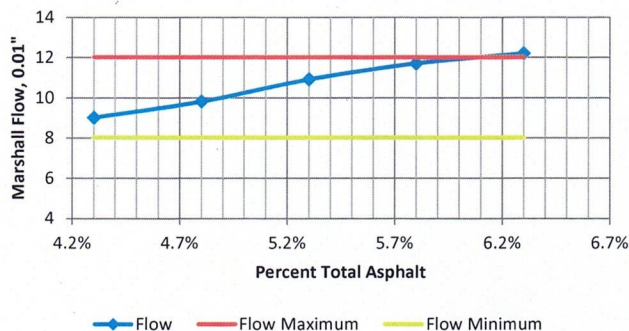
Air Voids (P_a)



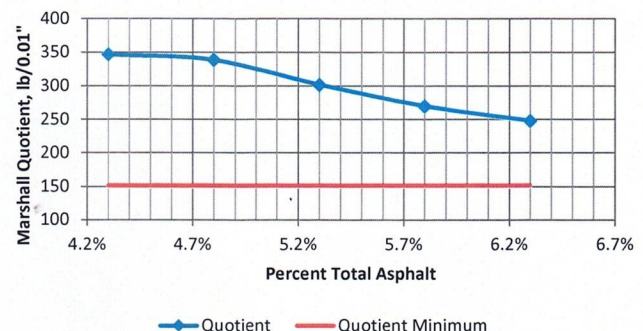
Marshall Stability



Marshall Flow



Marshall Quotient



Property	High	Low
Voids in Mineral Aggregate (VMA), %	6.3%	4.3%
Voids Filled with Asphalt (VFA), %	5.4%	4.7%
Percent Air Voids, (P_a) %	5.6%	4.9%
Marshall Stability (Corrected), lb	6.3%	4.3%
Marshall Flow, 0.01"	6.2%	4.3%
Marshall Quotient, lb/0.01"	6.3%	4.3%
Overlap	6.3%	4.3%

Properties at Desired AC%
15.6%
73.8%
4.1%
3290
10.9
300.2

Midpoint

5.3%

Desired Total Asphalt Content P_b

5.3%

Desired Asphalt Content is the midpoint, unless the midpoint is on the VMA curve's positive slope. If this is the case, the Desired Asphalt Content is as close as possible to the bottom of the VMA curve, within the Overlap Range.

Performance Testing Results Summary	
Producer	City Asphalt
Testing Lab	Rutgers University CAIT
Mix Type	DDC 6F RA 40% (mix 2)
Rejuvenator Dose	.5 lbs/ton

Hamburg Wheel-Track Test (AASHTO T-324)			
DDC Specification (@20,000 Cycles)	Trial Results (mm)		
	Left Wheel	Right Wheel	Average
< 12.5 mm	5.13	4.80	4.96

High Temperature Indirect Tensile Strength (ASTM D6931)						
DDC Specification		Trial Results (IDT Strength)				
IDT Strength	COV	Spec. A	Spec. B	Spec. C	Average	COV
> 30 psi	< 15	51.9	48.1	48.5	49.5	4.2

Semicircular Bending Flexibility Index Test (AASHTO T-393)							
DDC Specification		Trial Results (FI)					
Flexibility Index	COV	Spec. 2AX	Spec. 2AY	Spec. 2BX	Spec. 2BY	Average	COV
> 8	< 40	11.77	13.63	15.44	12.80	13.4	11.6

Indirect Tensile Cracking Test at Intermediate Temperature (ASTM D8225)						
DDC Specification		Trial Results (CT Index)				
CT Index	COV	Spec. A	Spec. B	Spec. C	Average	COV
> 135	< 25	182.5	185.4	183.2	183.7	0.8

Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures

AASHTO Designation: T 324-17

Technical Section: 2c, Asphalt-Aggregate Mixtures

Release: Group 3 (August 2017)



Project Name: 2025 City Asphalt NYCDDC

Project ID: NYCDDC BMD

Date Tested: 10/16/2025

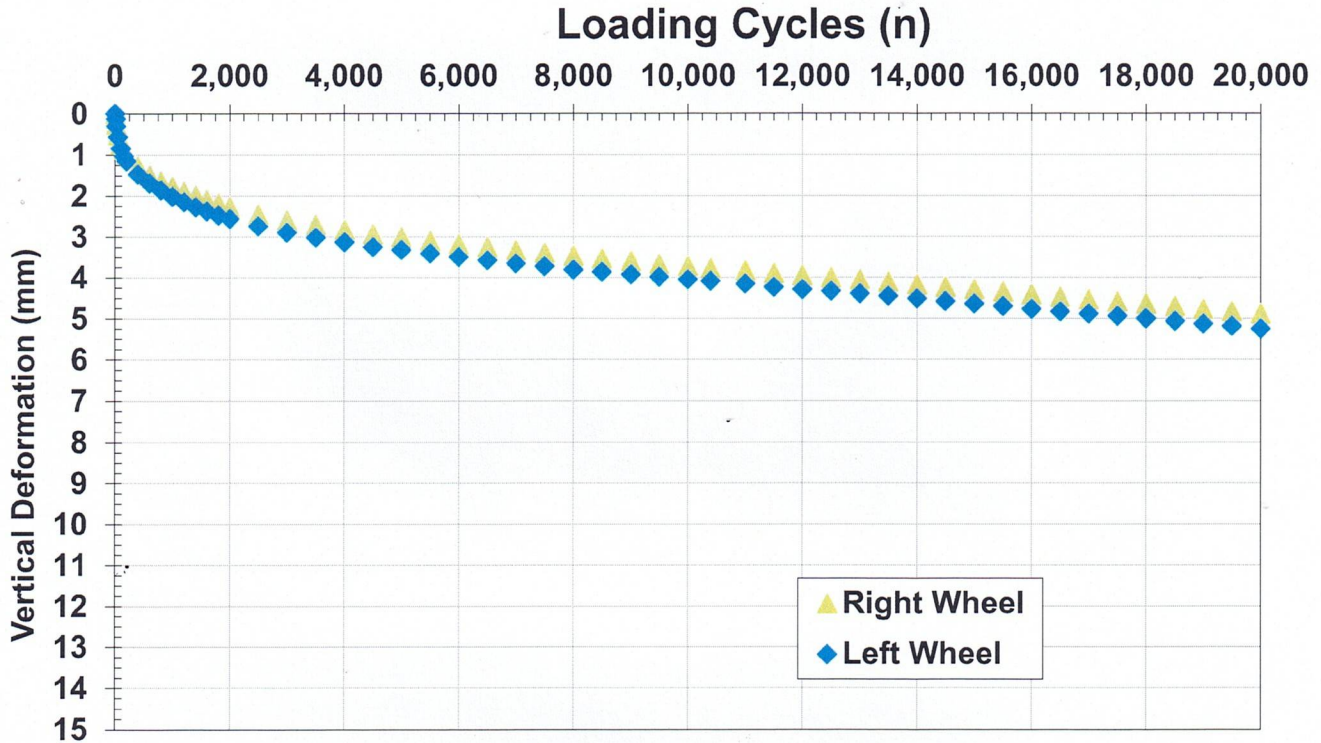
Asphalt Producer: City Asphalt

Mix ID: Mix 2

Plant ID:

Test Temperature: 50C

Test Method: AASHTO T-324



Test Results

	Left Wheel	Right Wheel	Average
Cycles at 12.5mm Rutting:	N.A.	N.A.	N.A.
Average Rutting at 20,000 cycles (mm):	5.13	4.80	4.96
Average Rutting at 10,000 cycles (mm):	4.07	3.75	3.91
Average Creep Slope (mm/cycle):	0.0001030	0.0001107	0.0001068
Average Stripping Slope (mm/cycle):	0.0001907	0.0001799	0.0001853
Stripping Inflection Point (cycles):	None	None	None



Standard Test Method for
Indirect Tensile (IDT) Strength of Asphalt Mixtures¹

Project Name: 2025 City Asphalt

Mix Type: Mix 2

Test Temperature: 44C

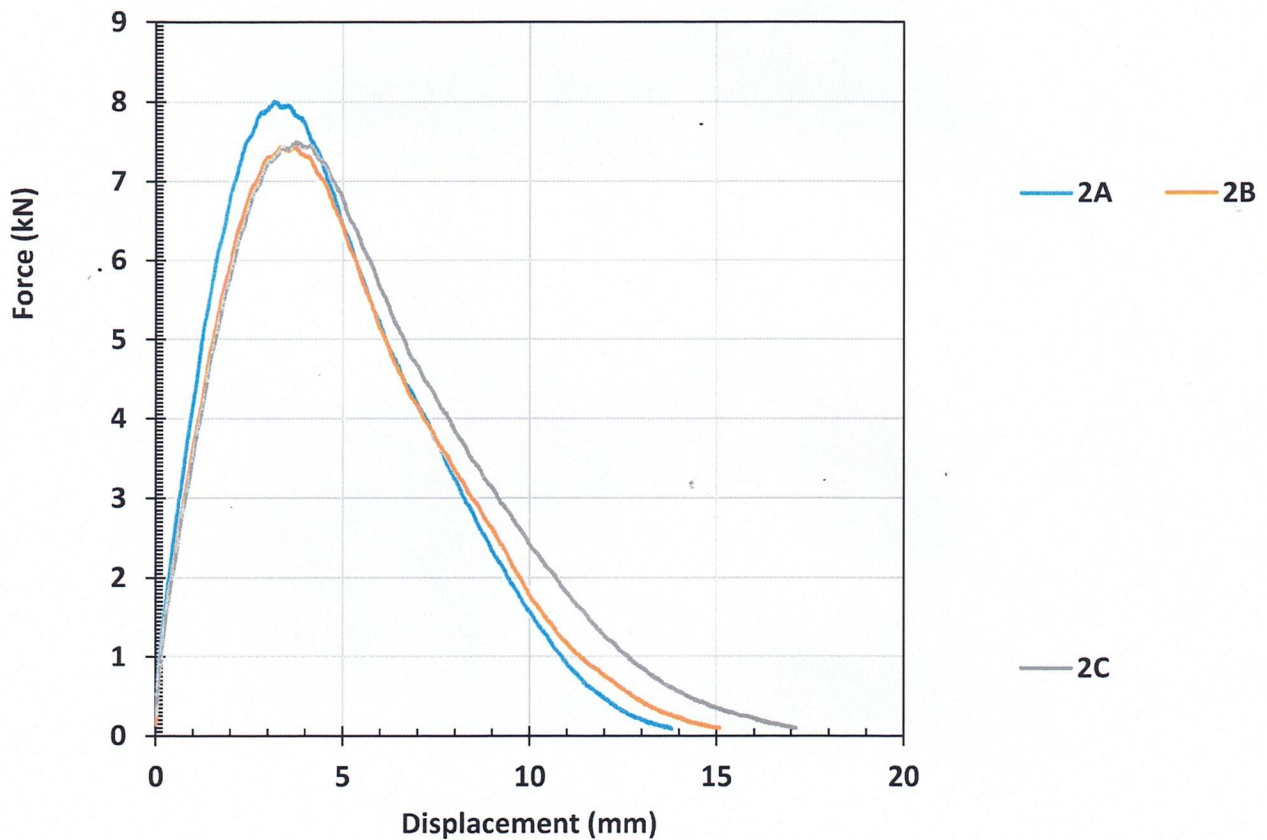
Institution: Rutgers University

Date Tested: 16-Oct-25

Technician: Haas

Specimen ID	Air Voids (%)	Thickness (mm)	Diameter (mm)	Peak Load (N)	IDT Strength (psi)
2A	6.7	94.9	150.1	8005.5	51.9
2B	6.7	94.9	150.3	7433.9	48.1
2C	7.0	95.0	150.3	7502.4	48.5
Average	6.8	94.9	150.2	7647.3	49.5
Std Dev	0.2	0.1	0.1	312.1	2.1
COV (%)	2.5	0.1	0.1	4.1	4.2

HT-IDT

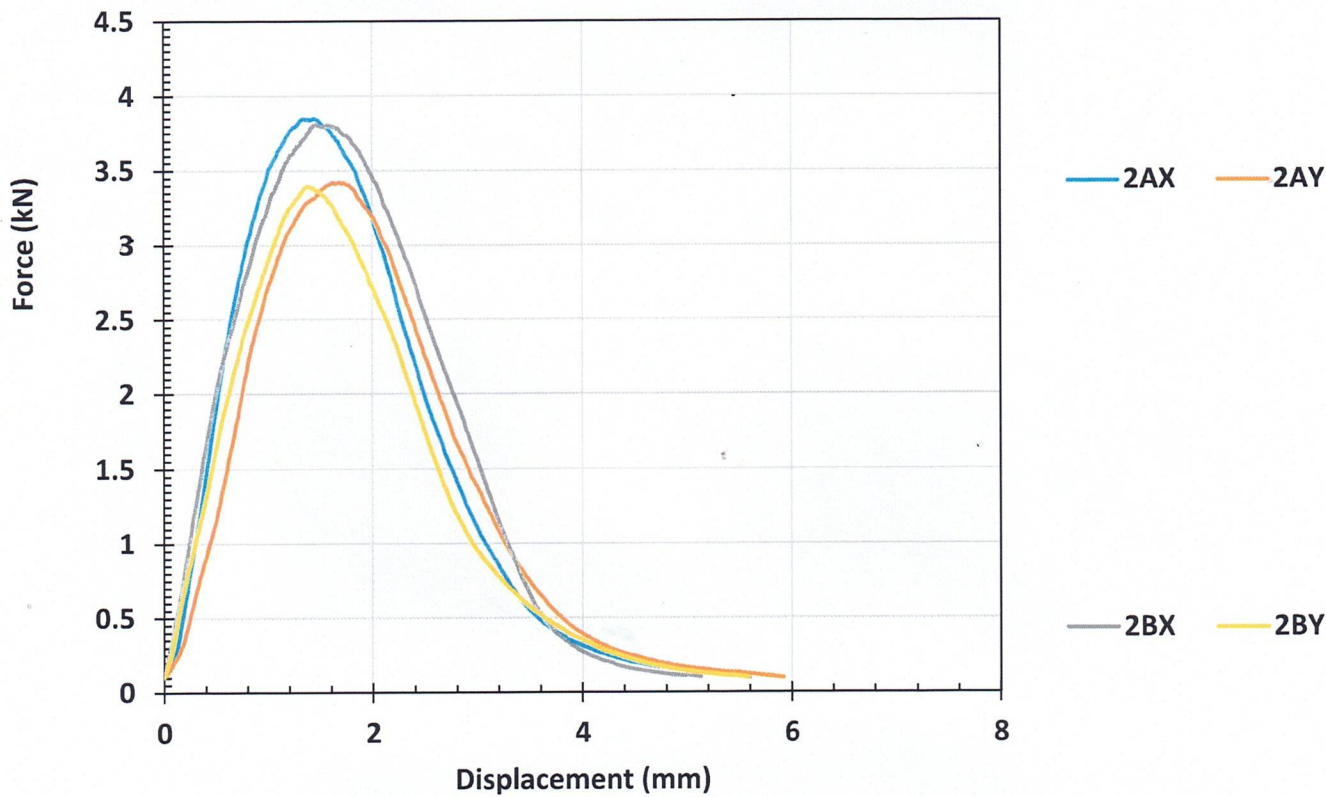


AASHTO T393 - Standard Method of Test for Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperatures

Project Name: 2025 City Asphalt	Institution: Rutgers University
Mix Type: Mix 2	Date Tested: 16-Oct-25
Test Temperature: 25C	Technician: Haas

Specimen ID	Air Voids (%)	Thickness (mm)	Ligament Length (mm)	Max Load (kN)	Fracture Energy, G_f (J/m ²)	Slope (kN/mm)	Flexibility Index (FI)
2AX	6.3	50.61	58.69	3.85	2841.8	-2.41	11.77
2AY	6.3	50.69	57.06	3.42	2744.4	-2.01	13.63
2BX	6.4	49.45	57.96	3.81	3128.7	-2.03	15.44
2BY	6.4	49.08	57.56	3.40	2629.7	-2.05	12.80
Average	6.4	49.96	57.82	3.62	2836.2	-2.13	13.4
Std Dev	0.1	0.8	0.7	0.2	213.4	0.2	1.6
COV (%)	0.9	1.6	1.2	6.7	7.5	-9.0	11.6

Intermediate Temperature SCB



ASTM D8225 - Standard Test Method for Determination of Cracking Tolerance Index of Asphalt Mixture
Using the Indirect Tensile Cracking Test at Intermediate Temperature

Project Name: 2025 City Asphalt	Institution: Rutgers University
Mix Type: Mix 2	Date Tested: 16-Oct-25
Test Temperature: 25C	Technician: Haas

Specimen ID	Air Voids (%)	Thickness (mm)	Diameter (mm)	Peak Load (kN)	(L) (mm)	Tensile Strength (kPa)	Fracture Energy (Gf) (LLD)	Slope (S)	Gf/S	Gf/S * (L/D) ²	CT Index
2A	6.9	62.0	150.0	12.5	5.7	852.5	9498.1	1.96	4839.2	6.9	182.5
2B	7.1	62.0	150.0	11.7	6.1	802.5	8894.2	1.94	4591.3	7.5	185.4
2C	6.8	62.1	150.0	12.0	5.8	822.2	9334.3	1.99	4694.7	7.1	183.2
Average	6.9	62.1	150.0	12.1	5.9	825.7	9242.2	1.96	4708.4	7.2	183.7
Std Dev	0.2	0.0	0.0	0.4	0.2	25.2	312.3	0.03	124.5	0.3	1.5
COV (%)	2.2	0.1	0.0	3.1	3.4	3.0	3.4	1.3	2.6	4.2	0.8

IDEAL-CT

