PLANT #: P-103

Dates Test Represents:

Sample Date: 4/28/25 Concrete Grade: DM, 4500HP 4/29/2025 through

5/5/2025

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1400	8.34	2.69	47.5
26A	58-003	Stoneco	400	2.38	2.69	13.6
2NS	63-114	Highland	1150	6.95	2.65	39.0
		Total W/A	2050	47.00		100.0

MDOT No.:

Contractor:

Superior Materials, LLC 30701 W. 10 Mile Rd.

Suite 500 Farmington Hills, MI 48336

•	Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%
Sieve	6AA	20	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	100.0	10	0.0	100.0	100.0	0.0	0.0
3/4"	81.4	10	0.0	100.0	91.2	8.8	8.8
1/2"	35.5	98	3.7	100.0	69.2	22.0	30.8
3/8"	15.9	84	4.2	100.0	57.9	11.3	42.1
#4	2.3	10	0.9	99.3	41.3	16.7	58.7
#8	1.1	2	.3	86.2	34.4	6.8	65.6
#16	0.9	1	.3	69.0	27.5	6.9	72.5
#30	0.8	1	.0	50.9	20.4	7.1	79.6
#50	0.8	0	.9	22.3	9.2	11.2	90.8
#100	0.7	0	.8	2.8	1.5	7.7	98.5
LBW	0.8	0	.7	0.7	0.7	0.8	99.3

*Maximum % Retained must be above the 3/8" sieve.

*Any two adjacent sieves must equal 10% except max.,

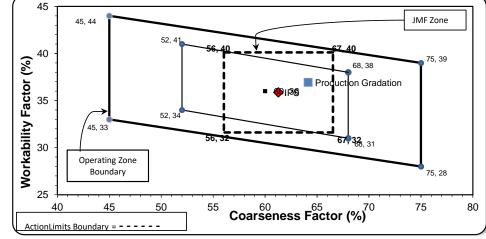
nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation	O Batch Plant Grad	dations	iradations	Adjusted WF	Intial Production Sample (IPS)	
Coarseness Factor:	64	Workability Factor	r: 34	36.9	Coarseness Factor:	61
45 -					Workability Factor:	36
+5						• •



Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY: SM, LLC Technical Service Approved BY:

Aggregate Optimization Chart

PLANT #: p11 Contractor:

Concrete Grade: DM, 4500HP Sample Date: 4/28/25 Dates Test Represents: 4/29/2025 5/5/2025 through

Dates Test I	tepresents.	1/20/2020	unougn	3/3/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	55.1
26A	71-47	Presque Isle	155	0.95	2.62	5.3
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
		Total W/s	2005	47.60		1000

MDOT No.:



Superior Mate	rials, LLC
30701 W. 10 Mi	le Rd.
Suite 500	
Farmington Hills	MI 48336

	Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	100	0.0	100.0	100.0	0.0	0.0
1"	98.8	100	0.0	100.0	99.3	0.7	0.7
3/4"	83.3	100	0.0	100.0	90.8	8.5	9.2
1/2"	40.3	95	.6	100.0	66.9	23.9	33.1
3/8"	21.0	82	.9	100.0	55.6	11.3	44.4
#4	2.3	24	.6	97.5	41.2	14.4	58.8
#8	1.4	8.	4	79.6	32.7	8.4	67.3
#16	1.3	4.	6	62.8	25.8	6.9	74.2
#30	1.3	3.	6	47.1	19.6	6.3	80.4
#50	1.3	3.	2	24.8	10.7	8.8	89.3
#100	1.2	2.	9	4.6	2.6	8.1	97.4
LBW	1.1	2.	6	0.6	1.0	1.7	99.0

*Maximum % Retained must be above the 3/8" sieve.

*Any two adjacent sieves must equal 10% except max.,

nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation	Batch Plant Grade	ations Aggregate Supplier Gradations	ons	Adjusted WF	Intial Product	ion Sample (IPS)
Coarseness Factor:	66	Workability Factor:	33	35.2	Coars	seness Factor:	_
7 45				$\neg \top$	Worl	kability Factor:	
45, 44	50.44		JMF Zone]	Sieve	Cumulative % Passing	
101	52, 41	40 67, 40		- 11	2"	100.0	Γ
% 40 }		68, 38	75, 39	- 11	1.5"	100.0	
"		!			1"	100.0	
Factor 35		■ 6 (1) 388S	1 - 4:	- 11	3/4"	95.0	
35		Ploduction Gr	adation		1/2"	72.3	
	52, 34	<u>!</u>			3/8"	60.4	
A5, 33 Operating Zone Boundary	36.	27 32			#4	42.6	
5 30 -		67, 32 68, 31			#8	36.0	
Operating Zone	,		_		#16	29.5	
Boundary			75, 28		#30	20.3	
25					#50	9.5	
40 45	50 55	60 65 70	75	80	#100	3.4	
		Coarseness Factor (%) ⁷⁰	. 3		LBW	1.3	
ActionLimits Boundary =						•	

Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY: SM, LLC Technical Service Approved By: