## Aggregate Optimization Chart

PLANT		P-103					Contractor:				
Sample Date	-	5/12/25			oncrete Grade	: DM, 4500HP					
Dates Test F	{epresents:	5/13/2025	through	5/19/2025		<b></b>	MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1350	8.04	2.69	45.8					
26A	58-003	Stoneco	450	2.68	2.69	15.3					
2NS 63-114		Highland	1150	6.95	2.65	39.0			SUPERIOR		
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	•	MATE	RIALS
Sieve	Sieve 6AA		26A		2NS	Cumulative % Passing	% Retained	Cumulative % Retained	Superior Materials, LLC 30701 W. 10 Mile Rd.		
2"	100.0		100.0		100.0	100.0	0.0	0.0	Suite 500		
1.5"	100.0		100.0		100.0	100.0	0.0	0.0	Farmington Hills, MI 48336		
1"	99.9		100.0		100.0	100.0	0.0	0.0			
3/4" 1/2"		32.5	100 99		100.0 100.0	92.0 72.1	8.0 19.9	8.0 27.9			
3/8"		9.3			100.0	61.8	19.9	38.2	*1403/00000000000000000000000000000000000	Detained must be	above the 2/0" sigve
3/8 #4	20.3 3.6		88.9 13.0		99.1	42.3	19.6	57.7	*Maximum % Retained must be above the 3/8" siev *Any two adjacent sieves must equal 10% except m		
#8	1.6		2.4		84.3	34.0	8.3	66.0	nom. max., #100 and #200 sieves.		
#16	1.0		1.8		64.9	26.2	7.7	73.8	*% Retained must be at least 4% for each sieve exce		
#30	1.3		1.6		47.4	19.3	6.9	80.7	nom. max., #100 and #200 sieves.		•
#50	1.2 1.2		1.6 1.5		21.7	9.3	10.1	90.7	*% Retained must be at least 4% for the 3/4" sieve will a 1.5" max. size (nom. Max. 1.0") aggregate is used.		
#100					2.9	1.9	7.3	98.1			
LBW		0.9	1.3		0.4	0.8	1.1	99.2			
Production G	Fradation	Batch Plant Gra	idations 💿 Aggi	egate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	6)	_	
Coarseness Factor: 58			Work	ability Factor:	34	36.5	Coars	eness Factor:	61		
45							Workability Factor:		36		
_	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
1	13, 11					'	Sieve	% Passing	Retained	% Retained	
		52, 41 <b></b>	40	67_40			2"	100.0	0.0	0.0	
40 1				68, 38	75, 39		1.5"	100.0	0.0	0.0	
€ <sup>40</sup>			i _				1"	99.3	0.7	0.7	
(%) <sup>40</sup>			Droduction C	radation			3/4" 1/2"	89.2 70.7	10.1	10.8 29.3	
<b>tor (%)</b>			Production G	lauation					18.5	29.3	
actor (%)	<b>→</b>								10.0		
Factor (%)	45.33	52, 34					3/8"	60.7	10.0 16.3	39.3	
Factor (%)	45, 33	52, 34					3/8" #4	60.7 44.4	16.3	39.3 55.6	
Factor (%)				67, 32 67, 32 67, 31			3/8" #4 #8	60.7 44.4 35.9	16.3 8.5	39.3 55.6 64.1	
Factor (%)	Operating Zone				75.28		3/8" #4	60.7 44.4	16.3	39.3 55.6	
Workability Factor (%)					75, 28		3/8" #4 #8 #16	60.7 44.4 35.9 27.3	16.3 8.5 8.6	39.3 55.6 64.1 72.7	
Factor (%)	Operating Zone				75, 28		3/8" #4 #8 #16 #30	60.7 44.4 35.9 27.3 19.1	16.3 8.5 8.6 8.2	39.3 55.6 64.1 72.7 80.9	

PREPARED BY: SM, LLC Technical Service

Approved BY: Mart 1. Ball

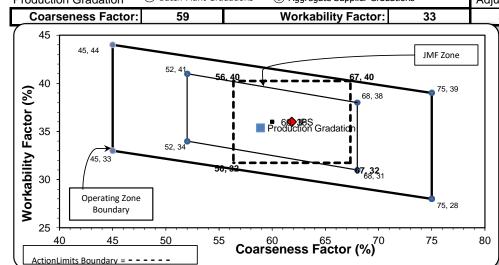
## Aggregate Optimization Chart

PLANT #	<b>#:</b>	p11					Contractor:			
Sample Date	:	5/12/25			Concrete Grade	: DM, 4500HP				-
Dates Test R	epresents:	5/13/2025	through	5/19/2025			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	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				é
·		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%		S
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Sup</u> 3070
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Suite
1.5"	1	00.0	100.0		100.0	100.0	0.0	0.0		Farr
1"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		
3/4"		85.8	100		100.0	92.2	7.8	7.8		
1/2"		48.6	94		100.0	71.4	20.8	28.6		
3/8"	:	30.2	79		100.0	60.5	10.9	39.5	*Maximum %	Retained m
#4		4.0	13		97.6	41.6	18.9	58.4	*Any two adja	acent sieves
#8		2.1	4.	-	79.6	32.9	8.7	67.1	nom. max., #1	
#16		1.8	2.		62.7	25.9	6.9	74.1	*% Retained	
#30		1.7	1.	-	47.0	19.6	6.3	80.4	nom. max., #1	
#50		1.6	1.		25.3	11.0	8.7	89.0	*% Retained	
#100		1.5	1.		5.7	3.2	7.8	96.8	a 1.5" max. siz	e (nom. Max
LBW		1.2	1. detiene		0.9	1.1	2.1	98.9		
Production G		Batch Plant Gra	0 55	regate Supplier Gr				on Sample (IPS	-	1
-	ess Factor:	59	Work	ability Factor	r: 33	35.4		eness Factor:	-	
		_					Work	ability Factor:	36	Cumula
	15, 44	50.44			JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumula % Retai



Superior Materials, LLC 30701 W. 10 Mile Rd. Suite 500 Farmington Hills, MI 48336

Maximum % Retained must be above the 3/8" sieve. Any two adjacent sieves must equal 10% except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for each sieve except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for the 3/4" sieve when 1.5" max. size (nom. Max. 1.0") aggregate is used.



Coars	seness Factor:	62			
Work	ability Factor:	36			
Sieve	Cumulative	%	Cumulative % Retained		
Sieve	% Passing	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		

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Approved By: Mary 1. Ball