11-Nov-2009

N.U.Q.Q.
NEW ULM QUARTZITE QUARRIES

2009 PRODUCT TEST SUMMARY

PRODUCT: **MNDOT FA-3, (3/8" x #4)**

GRADATION

NUMBER OF TESTS PERFORMED: 5 ***DATE OF LAST TEST: 05/28/2009***

SIEVES (millimeters in parentheses)	*MNDOT SPEC LIMITS*	*MNDOT SPEC MEDIAN*	*N.U.Q.Q. RUNNING AVERAGE*	*STANDARD DEVIATION ABOUT RUNNING AVERAGE*	*N.U.Q.Q. GRADATION TARGET BAND*	*% OF TESTS INSIDE OF TARGET BAND*
0.375" (9.5)	100%	100.0%	**99.6%**	0.5%	99% - %	60.0%
0.250" (6.35)	85% - 100%	92.5%	**36.2%**	1.6%	35% - 38%	60.0%
#4 (4.75)	10% - 40%	25.0%	**3.6%**	0.9%	3% - 4%	80.0%
#8 (2.36)	0% - 10%	5.0%	**1.4%**	0.6%	1% - 2%	60.0%
#200 (0.075)	0% - 5%	2.5%	**0.8%**	0.2%	1% - 1%	60.0%

NOTE: VALUES INDICATE THE PERCENT BY WEIGHT PASSING SQUARE OPENING SIEVES.

GENERAL QUALITY

QUALITY PARAMETERS	*N.U.Q.Q. RUNNING AVERAGE*	*MNDOT SPEC LIMITS*	*NOTE*
L.A.R. ABRASION LOSS, (A.S.T.M. C131-89):	**< 35.0%**	40% MAX.	TOUGHNESS
MAGNESIUM SULFIDE LOSS, (A.S.T.M. C88-90 - 5 CYCLES):	**4.8%**	N/A	SOUNDNESS
SPECIFIC GRAVITY, (A.S.T.M. C127-88):	**2.627**	N/A	BULK SSD
ABSORPTION IN BULK SAMPLE, (A.S.T.M. C126):	**< 0.35%**	N/A	POROSITY
LOOSE WEIGHT:	**86.70**	N/A	LBS. / CU. FT.
VOIDS IN LOOSE AGGREGATE:	**53.2%**	N/A	
200 MESH, (75 MICRON), MATERIAL, (A.S.T.M. C117-90):	**0.76%**	1.0% MAX.	SURFACE DUST
MEDIAN SIZE:	**0.140**	N/A	INCHES
AVERAGE LEAST DIM.:	**0.102**	N/A	INCHES
FLAKINESS INDEX:	**11.0%**	N/A	
SUGGESTED AGGREGATE APPLICATION RATE FOR SEAL COAT:	**11.0**	N/A	LBS. / SQ. YD.

QUARTZITE AGGREGATES CONTAIN NO SHALE, IRON OXIDE, SLATE, UNSOUND CHERT OR CLAY BALLS.

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SAMPLES AVAILABLE UPON REQUEST