

IOWA -- NUMBER OF TESTS PERFORMED: 20
 STANDARD -- NUMBER OF TESTS PERFORMED: 4
 DATE OF LAST TEST: 09/30/99

*NOTE: Values indicate the percent by weight passing square opening sieves.

Gradation						
-	IOWA PRODUCT No. of Tests Performed: 20			STANDARD PRODUCT No. of Tests Performed: 4		
SIEVES (mm)	IA Grading Limits	NUQQ Running Avg.	Standard Deviation about Running Avg.	N.U.Q.Q. Grading Limits	NUQQ Running Avg.	Standard Deviation about Running Avg.
6.0" (152.4)	100%	100%	0.0%	100%	99.4%	0.9%
5.0" (127.0)	100%	97.9%	2.2%	-	-	-
4.5" (114.3)	90%-100%	92.1%	4.2%	-	-	-
4.0" (101.6)	-	45.4%	8.3%	60%-70%	68.7%	3.8%
3.0" (76.2)	0%-5.5%	3.1%	2.1%	20%-40%	29.4%	6.1%
2.0" (50.8)	0%-0.4%	0.0%	0.1%	0%-10%	7.3%	1.4%
1.5" (38.1)	-	-	-	0%-5%	2.5%	1.0%
1.0" (25.4)	0%-0.1%	0.0%	0.0%	-	-	-
#4 (4.75)	-	-	-	0%-0.1%	0.0%	0.0%

DISCLAIMER: The gradation and mechanical test results included in this report are for information only. New Ulm Quartzite Quarries, Inc. makes no representation or warranties either expressed or implied with respect to the use of this information. New Ulm Quartzite Quarries, Inc. assumes no liability to anyone for special, collateral, exemplary, indirect, incidental,, consequential, or any other kind of damage resulting from the use or application of this information. Customers and other users of our products should exercise their independent judgment when using these products for the purposes they intend.

General Quality			
Quality Parameters	NUQQ Running Avg.	MNDot Spec Limits	Note
L.A.R. Abrasion Loss (A.S.T.M. C131-89):	<22.0%	N/A	Toughness
Sodium Sulfate Loss, (A.S.T.M. C88-10 Cycles):	0.54%	10.0% Max.	Soundness
Sodium Sulfate Loss, (A.S.T.M. C88-20 Cycles):	1.45%	10.0% Max.	Soundness
Specific Gravity, (A.S.T.M. C127-88):	2.63	N/A	Bulk SSD
Absorption, (A.S.T.M. D422):	0.3%	<1.5%	Porosity

Quartzite Aggregates contain no shale, iron oxide, slate, unsound chert or clay balls.