

**TABLE 1**  
**Physical Property Requirements for Clear Stone**

Laboratory Test	MTO Test Number	Nominal Maximum Size		
		53 mm	19 mm Type 1	19 mm Type II, 16 mm, 13.2 mm, and 9.5 mm
Loss by Washing, Pass 75 µm Sieve, % maximum	LS-601	2.0	2.0	2.0
Crushed particles, % minimum	LS-607	-	50	60
Micro-Deval Abrasion Loss, coarse aggregate, % maximum	LS-618	25	25	25

**TABLE 2**  
**Gradation Requirements for Clear Stone**

Sieve Size	Gradation (LS-602), Percent Passing					
	Nominal Maximum Size					
	53 mm	19 mm		16 mm	13.2 mm	9.5 mm
Type I		Type II				
63 mm	100	-	-	-	-	-
53 mm	90 - 100	-	-	-	-	-
26.5 mm	-	100	100	-	-	-
19.0 mm	0 - 15	90 - 100	90 - 100	100	-	-
16.0 mm	-	-	65 - 90	96 - 100	100	-
13.2 mm	-	-	-	67 - 86	96 - 100	100
9.5 mm	-	0 - 55	20 - 55	29 - 52	50 - 73	95 - 100
6.7 mm	-	-	-	-	-	20 - 45
4.75 mm	-	0 - 10	0 - 10	0 - 10	0 - 10	0 - 10
75 µm	0 - 2.0	0 - 2.0	0 - 2.0	0 - 2.0	0 - 2.0	0 - 2.0

**TABLE 3**  
**Physical Property Requirements for Granular C, Granular D, and Granular Sheeting**

Laboratory Test	MTO Test Number	Granular D	Granular C	Granular Sheeting
Petrographic Requirement, fine aggregate	LS-616 LS-709	(Note 1)		
Micro-Deval Abrasion Loss, coarse aggregate, % maximum (Note 2)	LS-618	30		
Micro-Deval Abrasion Loss, fine aggregate, % maximum	LS-619	35		
Plasticity Index (PI), maximum	LS-704	0		
Notes:				
<p>1. For materials north of the French/Mattawa Rivers only: for materials with &gt; 5.0% passing the 75 µm sieve, the amount of mica retained on the 75 µm sieve, passing the 150 µm sieve, shall not exceed 10% of the material on that sieve, unless testing according to LS-709 determines permeability values &gt; 1.0 x 10<sup>-4</sup> cm/s or field experience show satisfactory performance. Prior data demonstrating compliance with this requirement shall be acceptable, provided such testing has been done within the past five years and field performance has been satisfactory.</p> <p>2. The requirement for the coarse aggregate Micro-Deval abrasion loss test shall be waived if the material has more than 80% passing the 4.75 mm sieve.</p>				

**TABLE 4**  
**Gradation Requirements for Granular C, Granular D, and Granular Sheeting**

Sieve Size	Gradation (LS-602), Percent Passing		
	Granular C	Granular D	Granular Sheeting
150 mm	100	-	100
26.5 mm	50 - 100	-	50 - 100
13.2 mm	-	-	35 - 100
9.5 mm	-	100	-
4.75 mm	20 - 100	50 - 100	20 - 80
1.18 mm	10 - 100	20 - 55	10 - 50
300 µm	5 - 90	10 - 30	5 - 25
150 µm	4 - 30	-	0 - 15
75 µm	0 - 10.0	0 - 12.0	0 - 8.0

**TABLE 5**  
**Gradation Requirements for Gabion Stone and Rip-Rap**

Mass kg	Approximate Dimension Mm	Gradation, percent less than mass specified			
		Gabion Stone		Rip-Rap	
		G-3	G-10	R-10	R-50
75	305	-	-	-	100
50	265	-	-	-	70 - 90
25	210	-	-	-	40 - 55
15	180	-	100	100	-
10	155	-	90 - 100	70 - 90	-
5	125	100	-	40 - 55	-
3	105	90 - 100	-	-	-
2.5	100	-	0 - 5	-	0 - 15
0.5	60	0 - 5	-	0 - 15	-

Notes:

A. Masses are based on approximate size of an equivalent cube with a specific gravity of 2.65 and are provided for estimating purposes only. Gradation is determined by weighing individual stone particles in the field or laboratory.

**TABLE 6**  
**Physical Property Requirements for Truck Arrestor Bed Aggregate**

Laboratory Test	MTO Test Number	Truck Arrestor Bed Aggregate
Loss by Washing, Pass 75 µm Sieve, % maximum	LS-601	1.0
Absorption, % maximum	LS-604	2.0
Freeze-Thaw Loss, % maximum	LS-614	6
Micro-Deval Abrasion Loss, coarse aggregate, % maximum	LS-618	21

**TABLE 7**  
**Gradation Requirements for Truck Arrester Bed Aggregate**

<b>Sieve Size</b>	<b>Gradation (LS-602), Percent Passing</b>
37.5 mm	100
26.5 mm	90 - 100
19.0 mm	0 - 10

**TABLE 8**  
**Gradation Requirements for Mortar Sand**

<b>Sieve Size</b>	<b>Gradation (LS-602), Percent Passing</b>
4.75 mm	100.0
2.36 mm	95 - 100
1.18 mm	60 - 100
600 µm	35 - 80
300 µm	15 - 50
150 µm	2 - 15
75 µm	0 - 5.0

**TABLE 9**  
**Gradation Requirements for Winter Sand**

Sieve Size	Gradation (LS-602), Percent Passing
9.5 mm	100.0 (Note 1)
6.7 mm	97 - 100
4.75 mm	90 - 100
2.36 mm	50 - 95
1.18 mm	20 - 90
600 µm	0 - 70
300 µm	0 - 35
150 µm	0 - 15
75 µm	0 - 5.0
<p>Notes:</p> <p>1. In addition to LS-602, to be confirmed by visual inspection of the stockpile.</p> <p>A. The minimum size of the test sample shall be 5 kg. Following oven drying, the sample shall be sieved on the 9.5 mm, 6.7 mm, and 4.75 mm sieves. Material passing the 4.75 mm sieve shall be split to an appropriate size according to LS-602 for subsequent washing and fine sieving. The final grading shall be calculated according to LS-602 as the percentage of material passing each sieve based on the total mass of the oven dried sample.</p>	