To: SUPERSEDED BY EB 06-057 EFFECTIVE 5/3/07		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 03-042

Title: SPECIFICATION REVISIONS: SECTION 703 - AGGREGATES, TABLE 703-2 AND TABLE 703-3.

Distribution:

- ☒ Manufacturers (18)
- ☒ Main Office (30)
- ☐ Local Govt. (31)
- ☒ Regions/Agencies (32)
- ☐ Surveyors (33)
- ☒ Consultants (34)
- ☒ Contractors (39)
- ☐ _____( )

Approved:

Robert L. Sack — 21 NOV 03

Robert L. Sack, Deputy Chief Engineer, Technical Services Division — Date

ADMINISTRATIVE INFORMATION:

- **Effective date.** This EI will be effective with projects submitted for the letting of May 6, 2004.
- **Superceded issuances.** Nothing is hereby superceded.
- **Disposition of issued materials.** The materials transmitted herewith will be included in the next revision of the Standard Specifications.

PURPOSE: This EI issues revisions to Table 703-2, "Physical Requirements (Testing)" and Table 703-3, "Physical Requirements, Deleterious Materials."

TECHNICAL INFORMATION:

- The tables have been revised to reflect current practice. Limits have been modified to be consistent with performance history and revised testing procedures. Test numbers and notes have been updated.
- The Freezing and Thawing Test has been modified to make the test more severe. By making the test more severe, the range of test results broadens and permits a refinement of specification limits. The higher loss limit of 20% reflects the more severe test conditions and was selected to allow inclusion of aggregates known to perform and exclude those which do not.

IMPLEMENTATION:

- Regional Material Engineers will be informed of any changes in source approval status or use restrictions resulting from these revisions. The list of Approved Sources of Fine and Coarse Aggregate, available on the NYSDOT web site, will include any changes caused by these revisions.
- Attached shelf notes shall be inserted into all contract proposals by Main Office DQAB beginning with contracts submitted for the letting of May 6, 2004.
- Concrete producers should consult the Approved Aggregate Source List on the NYSDOT web site to determine if any changes to current mix designs are required .

CONTACT: Address questions concerning this issuance to William H. Skerritt, Geology Section, Materials Bureau at (518)457-1038 or by e-mail at wskerritt@dot.state.ny.us.

Make the following *changes* to Volume 3 of 3 of the Standard Specifications of January 2, 2002:

Page 7-19, ***delete*** Table 703-2 and ***replace*** with the following:

TABLE 703-2
PHYSICAL REQUIREMENTS (TESTING)[1]

Material Designation	Crushed Stone 703-0201	Crushed Gravel 703-0202	Screened Gravel 703-0203	Crushed Slag 703-0204
Magnesium Sulfate Test (703-07 P,G)[2] Max. percent loss by weight at 10 cycles	18	18	18	6
Freezing and Thawing Test (703-08 P,G)[3] Max. percent loss by weight at 25 cycles	20	20	20	-
Los Angeles Abrasion Test (703-11 P,G) Max. percent loss by weight (Grading A or B)	35[4] 45[5]	35	35	40
Flat Particles, Elongated Particles, or Flat and Elongated Particles (ASTM D 4791) Maximum percent by weight Flat and Elongated to the Degree of 5:1	10[6]	10[6]	-	-
Crushed Particles in any primary size (ASTM D 5821) Minimum percent by weight Larger than 12.5mm (1 fractured face)	-	75[7]	-	-
Smaller than 12.5mm (2 fractured faces)	-	85[7]	-	-
Minimum unit weight (703-10 P,G) kg/m^3	-	-	-	70

(1) To determine its conformance to specification limits, processed coarse aggregate may be tested at any point after completion of processing. The manufactured material shall be separated into the primary sizes indicated in Table 703-5, "Primary Size." Each size fraction shall conform to the requirements of §703-02 Coarse Aggregate.

(2) Loss applies to No. 2 size fraction.

(3) The freeze-thaw requirement applies only to aggregate used in Portland cement concrete. The loss applies to the No. 2 size fraction.

(4) Loss applies to all materials excepting marble, granite, and other similar materials.

(5) Loss applies to marble, granite, and other similar materials.

(6) Requirement applies to coarse aggregate for use in hot mix asphalt with design ESALs of 0.3 million or greater.

(7) Gravel which has not been processed through a crusher shall not be combined with crushed gravel.

Make the following *changes* to volume 3 of 3 of the Standard Specifications of January 2, 2002:

Page 7-20, ***delete*** Table 703-3 and ***replace*** with the following:

TABLE 703-3
PHYSICAL REQUIREMENTS
DELETERIOUS MATERIALS

Maximum percent by weight in any primary size[1]				
Material Designation	Crushed Stone 703-0201	Crushed Gravel 703-0202	Screened Gravel 703-0203	Crushed Slag 703-0204
Shale and shale-like materials[2]	3.0	3.0	3.0	-
Coal/Lignite/Sulfides[3]	1.0	1.0	1.0	-
Clay lumps or Wood	0.2	0.2	0.2	-
Metal Ore[4]	3.0	3.0	3.0	3.0
Other Deleterious Materials[5]	3.0	3.0	3.0	3.0
Total Deleterious Materials	5.0	5.0	5.0	5.0

(1) Coarse aggregates containing more than the specified maximum amounts of deleterious materials may be washed or otherwise processed until such specifications are satisfied.

(2) Shale, slate, phyllite, argillite, schist, and similar shale-like fissile rocks that have been identified by performance or by test to be unsound and deleterious. Such shale-like fissile rocks may be tested separately from the rest of the aggregate by freezing and thawing according to NYSDOT Test Method 703-08 P,G. If the loss is 20% or greater, that material will be designated as deleterious shale or shale-like material.

(3) Pyrite, marcasite, pyrrhotite, bog iron, and similar material.

(4) Magnetite, illmenite, etc. Percentages above 3.0% may be accepted by the Director, Materials Bureau, when appropriate adjustments to yield have been made.

(5) Cemented clusters, weathered particles, and similar material.