



# Illinois Department of Transportation

## Memorandum

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To: All Regional Engineers  
From: Omer M. Osman, P.E.   
Subject: Special Provision for Coarse Aggregate Quality  
Date: April 17, 2015

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This special provision was developed by the Bureau of Materials and Physical Research to provide a quality test for oil-stained aggregates and to remove the Los Angeles Abrasion limits for crushed slag.

This special provision should be inserted in contracts using portland cement concrete and hot-mix asphalt.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the July 31, 2015 and subsequent lettings. The Project Development and Implementation Section will include a copy in the contract.

This special provision will be available on the transfer directory April 17, 2015.

80360m

## COARSE AGGREGATE QUALITY (BDE)

Effective: July 1, 2015

Revise Article 1004.01(b) of the Standard Specifications to read:

“(b) Quality. The coarse aggregate shall be according to the quality standards listed in the following table.

COARSE AGGREGATE QUALITY				
QUALITY TEST	CLASS			
	A	B	C	D
Na <sub>2</sub> SO <sub>4</sub> Soundness 5 Cycle, ITP 104 <sup>1/</sup> , % Loss max.	15	15	20	25 <sup>2/</sup>
Los Angeles Abrasion, ITP 96 <sup>11/</sup> , % Loss max.	40 <sup>3/</sup>	40 <sup>4/</sup>	40 <sup>5/</sup>	45
Minus No. 200 (75 µm) Sieve Material, ITP 11	1.0 <sup>6/</sup>	---	2.5 <sup>7/</sup>	---
Deleterious Materials <sup>10/</sup>				
Shale, % max.	1.0	2.0	4.0 <sup>8/</sup>	---
Clay Lumps, % max.	0.25	0.5	0.5 <sup>8/</sup>	---
Coal & Lignite, % max.	0.25	---	---	---
Soft & Unsound Fragments, % max.	4.0	6.0	8.0 <sup>8/</sup>	---
Other Deleterious, % max.	4.0 <sup>9/</sup>	2.0	2.0 <sup>8/</sup>	---
Total Deleterious, % max.	5.0	6.0	10.0 <sup>8/</sup>	---
Oil-Stained Aggregate <sup>10/</sup> , % max	5.0	---	---	

1/ Does not apply to crushed concrete.

2/ For aggregate surface course and aggregate shoulders, the maximum percent loss shall be 30.

3/ For portland cement concrete, the maximum percent loss shall be 45.

4/ Does not apply to crushed slag or crushed steel slag.

5/ For hot-mix asphalt (HMA) binder mixtures, except when used as surface course, the maximum percent loss shall be 45.

6/ For crushed aggregate, if the material finer than the No. 200 (75 µm) sieve consists of the dust from fracture, essentially free from clay or silt, this percentage may be increased to 2.5.

7/ Does not apply to aggregates for HMA binder mixtures.

8/ Does not apply to Class A seal and cover coats.

9/ Includes deleterious chert. In gravel and crushed gravel aggregate, deleterious chert shall be the lightweight fraction separated in a 2.35 heavy media separation. In crushed stone aggregate, deleterious chert shall be the lightweight fraction separated in a 2.55 heavy media separation. Tests shall be run according to ITP 113.

10/ Test shall be run according to ITP 203.

11/ Does not apply to crushed slag.

All varieties of chert contained in gravel coarse aggregate for portland cement concrete, whether crushed or uncrushed, pure or impure, and irrespective of color, will be classed as chert and shall not be present in the total aggregate in excess of 25 percent by weight (mass).

Aggregates used in Class BS concrete (except when poured on subgrade), Class PS concrete, and Class PC concrete (bridge superstructure products only, excluding the approach slab) shall contain no more than two percent by weight (mass) of deleterious materials. Deleterious materials shall include substances whose disintegration is accompanied by an increase in volume which may cause spalling of the concrete.”