

State of Illinois  
Department of Transportation  
Bureau of Materials  
Springfield

POLICY MEMORANDUM

Revised: July 24, 2018

7-08.3

This Policy Memorandum supersedes 7-08.2 dated March 1, 2014

TO: REGIONAL ENGINEERS AND BUREAU CHIEFS IN THE OFFICE OF  
HIGHWAYS PROJECT IMPLEMENTATION

SUBJECT: RECYCLING PORTLAND CEMENT CONCRETE INTO AGGREGATE

**1.0 SCOPE**

Section 1003 and 1004 of the [Standard Specifications for Road and Bridge Construction](#) includes “crushed concrete” as an acceptable source of aggregate material. Care must be taken, however, to assure that quality and gradation requirements are not compromised when recycled concrete is used in lieu of other aggregate materials. Concrete removal and crushed concrete stockpiling and handling must be performed in such a manner as to avoid contamination of the aggregate with dirt and foreign matter.

**2.0 SAMPLING/TESTING PERSONNEL**

All sampling and testing for gradation shall be conducted by an Aggregate Technician or Mixture Aggregate Technician, as designated in the IDOT Policy Memorandum “[Aggregate Gradation Control System \(AGCS\)](#)”. Quality testing sampling, when specified shall be conducted by an IDOT Aggregate Inspector.

The overall program shall be administered by a Quality Control (QC) Manager, as designated in the AGCS.

**3.0 GENERAL PROCEDURE**

Acceptance of crushed concrete from jobsite recycling, or central recycling shall be according to 3.1 herein. Acceptance of returned Ready-Mix Concrete shall be according to 3.2 herein.

**3.1 Acceptance at Jobsite or Central Recycler.**

3.1.1 Acceptance of crushed concrete begins with approval of the raw feed stockpile. Crushed concrete used as raw feed at a central recycling plant or at a jobsite shall not be contaminated with soil or foreign matter. A small amount of soil embedded in the base of the concrete slab is acceptable. A small amount of construction debris, steel, fabric, wood from forms, and a small amount of RAP leftover from milling is also acceptable. Raw feed piles shall not have excavated soil, bricks, slabs of HMA pavement, or washout from concrete trucks. Previously approved crushed stone or crushed gravel

from the jobsite is allowed but shall be limited to 25 percent of the total raw feed. Contamination in the stockpile area is as detrimental as contamination when picking up the broken concrete. Stockpile pads shall be provided and haul roads/plant areas properly maintained to assure that acceptable material is not contaminated prior to use.

Stockpiling, hauling, and loading shall conform to the AGCS.

- 3.1.2 Quality testing, when specified, shall consist of one quality sample per every 10,000 tons per specific gradation. The quality samples shall be taken from stockpiled material. Quality testing limits by use are specified below.

Aggregate Use	IL Test Procedure <b>327*</b> (% Loss)	IL Test Procedure <b>96*</b> (% Loss)
HMA Surface and Binder	15.0	40
Granular Embankment Special, Granular Subbase, Stabilized Subbase, Aggregate Base, Aggregate Surface, and Aggregate Shoulders		45
Aggregate Wedge Shoulders, Type B		45

Aggregate Use	IL Test Procedure <b>203*</b> (% Deleterious)		
	RAP	OTHER	TOTAL
HMA Surface and Binder		2.0	2.0
Granular Embankment Special, Granular Subbase, Stabilized Subbase, Aggregate Base, Aggregate Surface, and Aggregate Shoulders	5.0	2.0	7.0
Aggregate Wedge Shoulders, Type B		2.0	2.0
Aggregate Subgrade Improvement**			10.0

\* Found in the current [Manual of Aggregate Quality Test Procedures](#)

\*\* This shall be performed with a visual of the Raw feed by the IDOT Aggregate Inspector. If disputed a sample of the finished product shall be sent to the Central Bureau of Materials for verification testing. Jobsite stockpiles that are for use on the same contract that the material originated from may be sent to a Central Recycler for crushing but must be kept separate from the other material to ensure no contamination takes place.

### 3.2 **Recycled Returned Ready-Mix Concrete.**

Portland Cement Concrete may be recycled by curing returned concrete either at the Concrete Mix Plant or at a Central Recycling Plant as outlined below:

Returned concrete shall be dumped on a clean stockpile area or concrete pad. A small amount of fines scattered on the pad prior to dumping the returned concrete, will assist in removal of the cured concrete.

No water shall be added to the returned concrete before dumping.

After the concrete truck is empty, it shall then proceed to a different area to “wash out”. “Wash out” refers to the use of water and agitation to remove the ready-mix residue from the inside the ready-mix truck.

The returned concrete shall be cured for a minimum of 2 weeks to gain strength. Cured concrete is then broken up and placed in piles.

- 3.2.1 Quality. IDOT reserves the right to test this material for quality, as outlined in Section 3.1.2., herein, if contamination is present in the stockpile.

### 3.3 **Gradation.**

Gradation sampling and testing shall comply with the Aggregate Gradation Control System. “Wash out” material may be mechanically blended with the returned concrete during aggregate production as long as the final product still meets the required gradation.

### 3.4 **Stockpiling.**

Stockpiling, hauling, and loading shall comply with the Aggregate Gradation Control System. Stockpile pads shall be provided and the haul roads/plant area properly maintained to prevent contamination.

## 4.0 **CLOSING NOTICE**

Archive versions of this policy memorandum may be examined by contacting the Bureau of Materials.

The current Bureau Chief of Materials has approved this policy memorandum. Signed documents are on file with the Bureau.