




Illinois Department of Transportation

Memorandum

To: Regional Engineers
From: Jack A. Elston, P.E. 
Subject: Special Provision for Material Transfer Device
Date: October 1, 2021

This special provision was developed by the Bureau of Materials. It has been revised to reference a new material transfer device (MTD) qualified product list (QPL) and limit the use of a Category II MTD's to lower lifts of a full-depth hot-mix asphalt (HMA) pavement where there is less than 10 in. (250 mm) of HMA binder thickness in place. It has also been revised to work with the 2022 Standard Specifications and remove the "fill in the blanks" as the required use of an MTD will now be shown in the HMA Mixture Requirements Table of the plans (see Figure 53-4.K in the BDE Manual).

This special provision shall be inserted into interstate HMA resurfacing and full-depth HMA contracts. For full-depth HMA contracts, an MTD shall be used for constructing all lifts of the pavement. It may be inserted in other HMA paving contracts at the district's discretion.

The operation or transportation of heavy equipment on pavement or structures within contract limits is governed by Article 107.16 of the Standard Specifications and implemented through Construction Memorandum No. 39. Additionally, this special provision contains specific restrictions regarding travel on structures. The designer shall submit information to the Bureau of Bridges and Structures identifying the structures that will be crossed by a Category I MTD. The Bureau of Bridges and Structures will analyze the structures to verify that they have the capacity to safely carry an emptied Category I MTD and will provide the designer with recommendations. The recommendations provided by the Bureau of Bridges and Structures will identify any structure, which due to general deterioration or insufficient load carrying capacity, cannot be crossed by an emptied Category I MTD. The plans shall include notice to the contractor of special requirements and restrictions for structures that cannot be crossed by an emptied Category I MTD. The notice shall indicate to the contractor that the emptied Category I MTD must be transported over the identified structures on a transport vehicle and that information describing axle loads and axle spacing of the transport vehicle must be provided to the Engineer for review by the Bureau of Bridges and Structures.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the January 21, 2022 and subsequent lettings. The

Project Coordination and Implementation Section will include a copy in the contract.

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MATERIAL TRANSFER DEVICE (BDE)

Effective: June 15, 1999
Revised: January 1, 2022

Add the following to Article 406.03 of the Standard Specifications:

“(n) Material Transfer Device 1102.02”

Add the following to the end of Article 406.06(f) of the Standard Specifications:

“When required, a material transfer device (MTD) shall be used to transfer the HMA from the haul trucks to the spreading and finishing machine. The particular HMA mixtures for which an MTD is required will be specified in the plans. When not required, an MTD may still be used at the Contractor’s option, subject to the requirements and restrictions herein. Use of MTDs shall be according to the following.

MTD Category	Usage
Category I	Any resurfacing application Full-Depth HMA where the in-place binder thickness is \geq 10 in. (250 mm)
Category II	Full-Depth HMA where the in-place binder thickness is $<$ 10 in. (250 mm)

Category I MTD’s will only be allowed to travel over structures under the following conditions:

- (1) Approval will be given by the Engineer.
- (2) The MTD shall be emptied of HMA material prior to crossing the structure and shall travel at crawl speed across the structure.
- (3) The tires of the MTD shall travel on or in close proximity and parallel to the beam and/or girder lines of the structure.”

Add the following to the end of Article 406.13(b) of the Standard Specifications:

“The required use of an MTD will be measured for payment in tons (metric tons) of the HMA mixtures placed with the MTD. The use of an MTD at the Contractor’s option will not be measured for payment.”

Add the following between the second and third paragraphs of Article 406.14 of the Standard Specifications:

“The required use of an MTD will be paid for at the contract unit price per ton (metric ton) for MATERIAL TRANSFER DEVICE. The HMA mixtures placed with the MTD will be paid for separately according to their respective specifications.”

Revise Article 1102.02 of the Standard Specifications to read:

“1102.02 Material Transfer Device (MTD). The MTD shall be according to the following.

- (a) Requirements. The MTD shall have a minimum surge capacity of 15 tons (13.5 metric tons), shall be self-propelled and capable of moving independent of the paver, and shall be equipped with the following.
 - (1) Front-Dump Hopper and Conveyor. The conveyor shall provide a positive restraint along the sides of the conveyor to prevent material spillage. MTDs having paver style hoppers shall have a horizontal bar restraint placed across the foldable wings which prevents the wings from being folded.
 - (2) Paver Hopper Insert. The paver hopper insert shall have a minimum capacity of 14 tons (12.7 metric tons).
 - (3) Mixer/Agitator Mechanism. This re-mixing mechanism shall consist of a segmented, anti-segregation, re-mixing auger.
- (b) Qualification and Designation. The MTD shall be on the Department’s qualified product list with one of the following designations.
 - (1) Category I. The MTD has a documented maximum HMA carrying capacity contact pressure greater than 25 psi and has a central surge hopper of sufficient capacity to mix upstream HMA with downstream HMA.
 - (2) Category II. The MTD has a documented maximum HMA carrying capacity contact pressure less than or equal to 25 psi.”