

IOWA DEPARTMENT OF TRANSPORTATION

To Office Bridges and Structures

Date May 1, 2008

Attention All Employees

Ref No. 521.1

From Gary Novey

Office Bridges and Structures

Subject Method's Memo No. 197 (Revision to E/M 202 - Embedded deck hangers in PPCB)

CADD note E/M 202 has been revised as follows:

E 202

IF DECK HANGERS ARE EMBEDDED IN PRESTRESSED CONCRETE BEAMS, THEY SHALL BE COATED USING ONE OF THE FOLLOWING METHODS:

1. **ELECTROPLATING IN ACCORDANCE WITH ASTM B633, SERVICE CONDITION SC4, REQUIRED COATING THICKNESS OF 1.0 MIL. CLASSIFICATION AND COATING SUFFIX: Fe/Zn 25**
2. **MECHANICAL GALVANIZING IN ACCORDANCE WITH ASTM B695, TYPE1, CLASS 50. MINIMUM COATING THICKNESS SHALL BE 2 MILS.**

M 202

IF DECK HANGERS ARE EMBEDDED IN PRESTRESSED CONCRETE BEAMS, THEY SHALL BE COATED USING ONE OF THE FOLLOWING METHODS:

1. **ELECTROPLATING IN ACCORDANCE WITH ASTM B633, SERVICE CONDITION SC4, REQUIRED COATING THICKNESS OF 25.0 MICROMETERS. CLASSIFICATION AND COATING SUFFIX: Fe/Zn 25**
2. **MECHANICAL GALVANIZING IN ACCORDANCE WITH ASTM B695, TYPE1, CLASS 50. MINIMUM COATING THICKNESS SHALL BE 50 MICROMETERS.**

It was found that hot dip galvanizing may not be a viable option for welded components due to concerns of hydrogen embrittlement. In these cases, where steel has been welded and hot dip galvanized there may be detrimental effects on the welds as well as on the inserts. A pre-treatment and a post treatment of the steel for the purpose of reducing the risk of hydrogen embrittlement are available but are very costly and there are no assurances that either of these treatments can be properly performed. Therefore, the note E/M 202 was revised to allow two other coating methods.

This revision should be made to all prestressed concrete bridge project that have not yet been turned in. If you have any questions please check with me.

GAN/dgb/bj