

STEEL BEAM GUARDRAIL

1. Material must come from an approved producer who is on the NCDOT Brand Registration Program for Guardrail Materials. The current listing of approved guardrail producer can be found on the Department's Vendor System.

2. Each shipment of guardrail must be accompanied by a matching Bill of Lading (BOL) listing all of the guardrail materials contained within that shipment. If a Contractor ships guardrail material from a distribution yard to the job site, a new BOL must be filled out detailing only the items contained within that shipment.

3. Division Personnel must remember the following:

A. For Steel Beam Guardrail:

Each rail element (12.5' and 25") must have the producer's Heat Number clearly and legibly stamped into one side of the rail.

B. For Wood Line Posts and Offset Blocks:

Each bundle of wood posts and blocks must be tagged with at least (3) silver NCDOT tags.

An example of the tag:

In addition to the tags on the bundles, the posts and blocks within the bundle must come with A. W. Williams hammer marks on the end.

An example of the hammer mark:

The number on the hammer mark is the A.W.W.
Inspector number and will change.

C. For Type 350 Anchor Units:

All Type 350 Units must pass FHWA-mandated crash tests and then be pre-approved by NCDOT. Type 350 end units are proprietary and are received by a Type 3 Manufacturer's Certification. However, there are a few points that should be remembered:

(1) The Project Special Provisions detail specific options the contractor may use for Type 350 end units. For a given installation, the Provisions spell out manufacturers and their specific pre-approved Type 350 units. Division Personnel must insure that the Type 350 Units used come from the list provided by the Contract.

(2) Each Type 350 unit should have a sticker indicating the Producer's name and the Brand name of the unit.

(3) Materials and Tests technicians must still take zinc coating readings on these materials before final acceptance.

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(4) The unit is accepted on certification as a whole and therefore must come from the producer as an ENTIRE unit. This also means that any wood products contained within the unit will be accepted without A. W. Williams inspection tags and hammer marks.

D. For Non-Type 350 Anchor Units (MELT, BCT-1, AT-1. ETC):

These units are being phased out, but older contracts may still specify their usage, therefore a couple of things should be remembered:

(1) These units must be inspected for zinc coating and the wood items within these units must come to the project in tagged bundles and with A. W. Williams hammer marks.

(2) Anchor cables for the units must be sampled at a rate of 1 per 50 cables installed or fraction thereof. The anchor cable samples will be picked up by the Materials and Tests technician when he/she comes out to perform the coating inspection.

4. All guardrail must be inspected by Materials and Test technicians after installation. Division Personnel should notify their local Materials and Tests technician for inspection at the following frequencies:

- After 2000 L. F. of guardrail has been installed,
- or - The installation for the project is complete,
- or - Immediate inspection is requested by the Engineer due to safety concerns, construction phasing, traffic control, etc.

5. Division Personnel should fill out a "Report of Materials Received" (M&T Form 251), making sure to indicate the Producer of the guardrail and including the following:

- For the Rail – the heat numbers received.
- For Wood Line Posts and Offset Blocks – indicate in the Remarks section that the items were A. W. Williams approved and list the corresponding tag numbers. Be sure to list each type of wood items separately, M&T needs this to insure proper payment to A. W. Williams for their inspections.
- For Type 350 Units – indicate the actual brand name of the unit. "Type 350", "M-350", etc. is not sufficient to determine if the Unit has been pre-approved. There is also no need to list any wood items or hardware for these units, the entire unit has been pre-approved.
- For Non-Type 350 Units – list separately any wood items received and indicate in the Remarks section that the items were A.W. Williams approved and list the corresponding tag numbers. Again, please be sure to indicate the actual numbers of each type of wood product separately on the MRR.
- For ALL Guardrail Materials – please do NOT list individual components and hardware for the rail end units.

A copy of the Bill of Lading should also be attached to the MRR.