



U.S. Department  
Of Transportation  
**Federal Highway  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

March 30, 1994

Refer to: HNG-14/SS-44

Mr. Herbert J. Henry  
Telespar Product Manager  
Unistrut Corporation  
35660 Clinton Street  
Wayne, Michigan 48184-2091

Dear Mr. Henry:

Thank you for your February 1 letter to Mr. James H. Hatton, Jr., requesting Federal Highway Administration's (FHWA) acceptance of your company's 14-gage (1.9 mm thick wall), ASTM A715 Grade 60, square perforated small sign supports. You submitted section and material properties as well as drawings of the various sizes of dual post supports you wish to have accepted. You also included photographs of some posts manufactured from this new material after they had been hit by a light truck during your own informal testing. These posts were mounted in 12-gage steel sleeves driven into the soil.

We have reviewed the information you supplied and made comparisons to tests on file of 10-gage and 12-gage perforated square steel tubes. The dual-post, 12-gage ASTM A-570 grade 40 sign supports up to 50.8 mm x 50.8 mm directly embedded 1200-mm into strong soil have met our breakaway criteria. Upon comparing tensile strengths and bending properties of these supports to those of the 14-gage supports, we find the posts indicated in the table below are acceptable for use on the National Highway System, if requested by a State.

Post Number	Designation (inches)	Size (mm)	Gage	Thickness (mm)	Number Within 2.1 m	Soil Type*	
						Direct Bury	With 12-ga. Sleeve
22D12	2 ¼	57.1	14	1.9	One**	Standard Only	Standard Only
20D12	2	50.8	14	1.9	Two	Standard Only	Standard Only
16D12	1 ¾	44.5	14	1.9	Two	Standard Only	Standard Only
14D12	1 ½	38.1	14	1.9	Two***	Standard	Standard Only

						Only	
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All posts to be of ASTM A715 grade 60 steel.

\*Your letter did not discuss foundation conditions. The tests we reviewed were conducted with sleeves, or with posts directly embedded into “strong soil”. The indicated supports will be considered acceptable with or without an anchor sleeve if embedded in standard (strong) soil. These supports should not be used in “weak” soil unless tested.

\*\*You requested that a two-post support of this size post be considered acceptable. From our review of the available information we could not assure ourselves that a two-post support will meet our breakaway requirements. Therefore, we must reserve judgment on the two-post support of this size post until tests are conducted on it.

\*\*\*You requested that a three-post support of this size post be considered acceptable. From our review of the available information we could not assure ourselves that a three-post support will meet our breakaway requirements. Therefore, we must reserve judgment on the three-post support of this size post until tests are conducted on it.

Our acceptance is limited to the breakaway characteristics of the posts and does not cover the structural features. Presumably, you will supply potential users with sufficient information on structural design and installation requirements to ensure proper performance. We anticipate that the States will require certification from Unistrut that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that included in you letter of request, and that it will meet the FHWA change in velocity requirements.

Sincerely yours,

Seppo I. Sillan, Acting Chief  
Federal-Aid and Design Division

Geometric and Roadside Design Acceptance Letter SS-44