

**Standard Interpretations**

**04/15/1992 - Use of plywood for shoring and support systems in trenches and excavations.**

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• **Standard Number:** [1926.652](#)

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April 15, 1992

Mr. Fulton Desler  
Associate Engineer  
Technical Services Division  
American Plywood Association  
7011 S. 19th Street  
P.O. Box 11700  
Tacoma, Washington 98411-0700

Dear Mr. Desler:

Your letter of February 6 to Mr. Fred Anderson concerning his February 13, 1991 letter to Mr. Ronald Amerson has been referred to the Office of Construction and Maritime Compliance Assistance for a response. We appreciate the information you have provided and the opportunity to address your questions concerning Occupational Safety and Health Administration (OSHA) excavation standards.

In regard to the intent of note (g)(7) in 29 CFR, Part 1926, Subpart P, Appendix D, Aluminum Hydraulic Shoring for Trenches, please be advised that this note only applies to Tables D-1.1 through D-1.4 of this appendix where an employer chooses to design a protective system in accordance with 29 CFR 1926.652(c)(1), option (1). The plywood mentioned in this note is not intended as a substitute for any primary load carrying structural members, e.g. timber uprights or aluminum rails as called for in Tables D-1.1 through D-1.4. In other words, the plywood in this note can only be used to contain raveled soil and to transfer the loads imposed by this soil to the load carrying members.

In regard to the use of equivalent strength plywood, please be advised that substitutions of plywood thicknesses or types other than the two mentioned in note (g)(7) will be accepted for a system designed pursuant to 1926.652 (c)(1), Option (1), provided they have equal or better strength and stiffness than 1.125 inch softwood plywood or .75 inch 14-ply arctic white birch. The suggestion in Mr. Anderson's letter of using two 3/4 inch thick sheets of plywood with the spans parallel to the face grain is just one of the alternatives which might prove feasible. (See attached structural computations by Dr. Scott Jin of the Office of Construction and Engineering). Any other plywood type or combination with equal or better strength and stiffness would satisfy the intent of the requirement listed in note (g)(7).

Regarding the general application of plywood as a sheeting member for shoring and support systems in trenches and excavations, please see paragraph 1926.652(c)(3), Option (3)- Designs using other tabulated data. An employer who elects to use Option (3) must meet only the requirements of that subsection and is not bound by the requirements in the appendices of 1926.652. Registered professional engineers who develop tabulated data for

use by employers under Option (3) often will include plywood sheeting as a component of support systems. To aid such engineers, it may be worthwhile for your association to provide data on the equivalency of various combinations of commonly available plywood types and sizes.

If we can be of any further assistance, please contact Mr. Roy F. Gurnham of my staff in the Office of Construction Compliance Assistance at (202) 523-8136 or Mr. Fred Anderson in the Office of Construction and Engineering at (202) 523-1438.

Sincerely,

Patricia K. Clark, Director  
Directorate of Compliance Programs