

AUGUST 2008 MEETING

Wednesday, August 13, 2008

TECHNICAL PROGRAM

Raised Floor Systems

Speaker: Bruce Cordova, FPA Member, with APA The Engineered Wood Association, Houston TX, Tel. 281-463-0742

PRESENTATION SUMMARY

To a room of about 65, Mr. Cordova, who has a BSCE from TAMU in 1972 and an MSCE from UH in 1979 presented, "Raised Wood Floors - Design and Construction Options". Mr. Cordova, who works in APA's field services division, said the non-profit association was founded in 1933 with headquarters in Tacoma, Washington with the mission to establish standards for plywood and fir. APA's current mission is to provide quality auditing and testing, applied research, and market support and development of plywood, oriented strand board, wood I-joists, glulam timber, and structural composite lumber for nearly all wood species.

Mr. Cordova discussed system advantages, cost comparisons, design, problems, and problem prevention of raised floor systems. He first discussed the sustainability of wood products, noting that in North America we plant three million trees per day, with current growth exceeding harvest by 25%. He said wood's number one enemy is moisture.



Mr. Cordova discussed new changes from FEMA to the 2006 International Residential Code (IRC, Sect. R324) for flood resistant construction and said this is propagating the need for raised wood floors in areas like Houston. In order to have raised wood floors perform properly, Mr. Cordova said it is imperative to:

- have the crawlspace final grade higher than outside grade, sloping for at least 6 to 10 feet away from the crawlspace.
- have the proper amount of ventilation configured to have good cross-ventilation. The amount of ventilation required per IRC is 1/150 (ventilation area/crawlspace area) unless a continuous moisture barrier is used in which case the required minimum ventilation is only 1/1500.
- keep the crawlspace wood moisture content to 19% or less.
- keep the crawlspace relative humidity to 70% or less.
- not mix I-Joist and dimensional lumber joist because of the different stiffnesses and moisture contents.
- if backing paper is used on the floor insulation, turn the backing side down (applicable for Houston and other areas with warm climates).

Mr. Cordova said APA has been building test raised wood floor systems in Houston, finding that using a 6-mil poly continuous moisture retarder at grade with the reduced 1/1500 ventilation appears to result in an energy savings of 15% for this closed crawlspace design over the conventional open crawlspace design. He also said that most people prefer the appearance of a raised wood floor over a slab on grade foundation, and he believes its cost is similar to a slab on grade that is raised on 3 feet of fill.