

Please add as a comment on the gravel issue for the meeting on the 19th.

Thanks

Sent from my BlackBerry Wireless Handheld

----- Original Message -----

From: David Roodvoets [dlrconsul@charter.net]
Sent: 03/07/2008 02:57 PM
To: <Mo.madani@dca.state.fl.us>
Subject: Ballasted Roofs

Mo

The following summarizes the basic industry position on ballasted roofs:

Wind design for aggregate and ballasted roofs.

For the last few cycles of the IBC code change process the roofing industry has been trying to educate the structural committee on the differences between aggregate as used in asphalt built up roofs (BUR) and stone and other materials used to ballast single-plys. Since the late 1970's the roofing industry has separated the aggregate used in BUR from the stone or other ballast used in single-plys.

The aggregate used for BUR's has been well defined in ASTM D1863 and incorporated into the code. This is relatively small in size usually less than 1 1/2" in diameter. It can perform well in high winds if it is adequately embedded into the asphalt matrix, or is on a roof with a high parapet. BUR roofs are designed to be fully adhered to the underlying roof matrix, either the roof deck or insulation that is above the roof deck.

The stone used for ballast has been sized using ASTM D448. The wind performance of this material was extensively studied in wind tunnels and by field inspections during the 1970's and 1980's resulting in the development of ANSI/SPRI/RP-4. The key reason for developing RP-4 was to eliminate improper use of stone ballast. The standard considers two common sized stones, those of about 1 1/2" diameter or #4 stone, and those of about 2 1/2" diameter or #2 stone. The tables in RP-4 have a large safety factor, and there have been additional safeguards added to prevent systems being installed using small aggregate in hurricane prone areas. See Paragraph 2.6 of RP-4.

RP-4 requirements were again validated during the RICOWI inspections following the 2004 Florida hurricanes, and hurricane Katrina.

Table 1504.8 in the IBC was developed by a structural engineer based on load factors. It does not correspond to wind tunnel or field reported data for products commonly used in the roofing industry.

Further Questions please call me at 231 893 1291

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