## **RAS-128**

ROOFING APPLICATION STANDARD (RAS) No. 128-20 STANDARD PROCEDURE FOR DETERMINING APPLICABLE WIND ALLOWABLE STRESS DESIGN PRESSURES FOR LOW SLOPE ROOF IN ACCORDANCE WITH ASCE  $\frac{7}{2}$ 

#### 1. Scope

1.1 This roofing application standard has been developed to provide a responsive method of complying with the requirements of Chapters 15 & 16 (High-Velocity Hurricane Zones) of the *Florida Building Code, Building.* Compliance with the requirements and procedures herein specified, where the pressures (P<sub>asd</sub>) have been determined based on Table 1 or 2, of this standard, as applicable, do not require additional signed and sealed engineering design calculations. All other calculations must be prepared, signed and sealed by a professional engineer or registered architect.

#### 2. Definitions

2.1 For definitions of terms used in this application standard, refer to ASTM D1079 and the *Florida Building Code, Building.* 

#### 3. Applicability

- 3.1 This application standard applies to buildings meeting all of the following:
- a. <u>located in eExposure Category</u> C and <u>or</u> D category buildings, with and without overhangs;
   and
- b. building eave heights of less than or equal to 40 60 feet; and
- c. roof incline (pitch slope) is not greater than ≤1.51/2 in.:12 in., and
- d. risk category II buildings only.
- 3.2 Using Table 1 or 2 below, as applicable, determine the minimum design pressure for each respective roof area, which corresponds to the applicable roof height range.
- 3.3 Referencing the selected Roof Assembly Product Approval, check that the listed maximum allowable <u>components and cladding</u> design pressure for the <del>particular</del> approved system meets or exceeds those listed in Table <u>1 or 2</u> above <u>below</u>, as applicable.

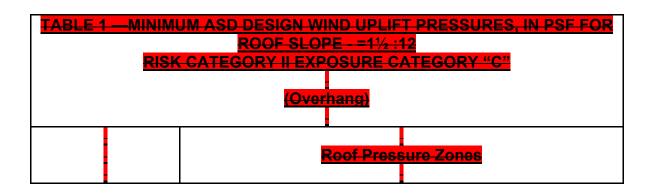
TABLE 1 — RISK CATEGORY II EXPOSURE CATEGORY "C"<sup>1,2</sup>
MINIMUM DESIGN WIND UPLIFT PRESSURES, IN PSF FOR FIELD [Pasd(1)],
PERIMETER [Pasd(2)]AND CORNER [Pasd(3)] AREAS OF ROOFS FOR

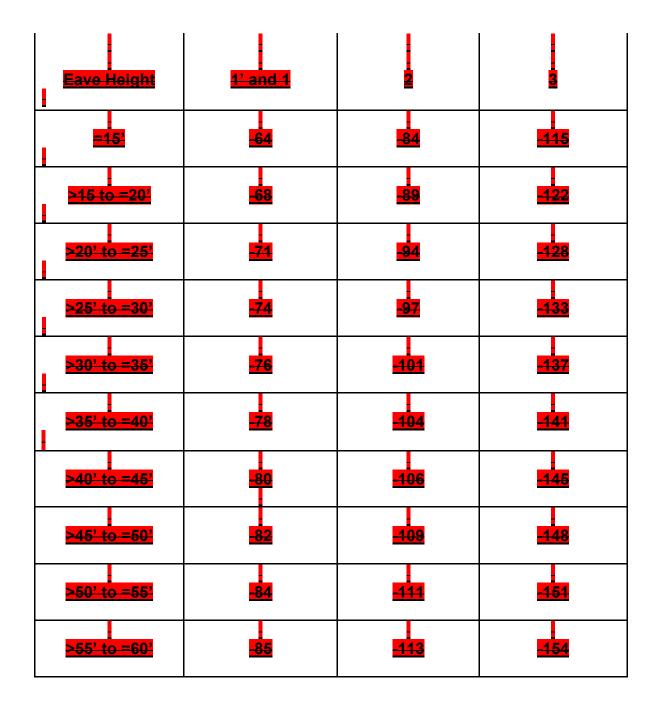
EXPOSURE "C" BUILDINGS					
Roof mean height (below)	Pasd(1) (Field)	Pasd(2) (Perimeter)	Pasd(3) (Corners)		
<del>20</del>	<del>-42.8</del>	<del>-71.7</del>	<del>-108.0</del>		
<del>25</del>	<del>-44.8</del>	<del>-75.1</del>	<del>-113.0</del>		
<del>30</del>	<del>-46.4</del>	<del>-77.8</del>	<del>-117.2</del>		
<del>35</del>	<del>-48.1</del>	<del>-80.6</del>	<del>-121.3</del>		
40	<del>-49.4</del>	<del>-82.9</del>	<del>-124.7</del>		

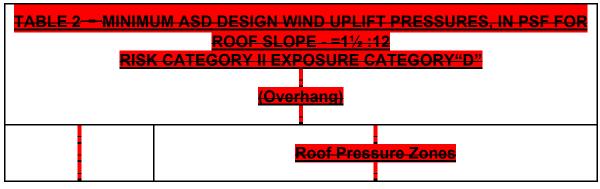
- 1 Calculated in accordance with ASCE 7.
- 2 Pasd = 0.6 Pult

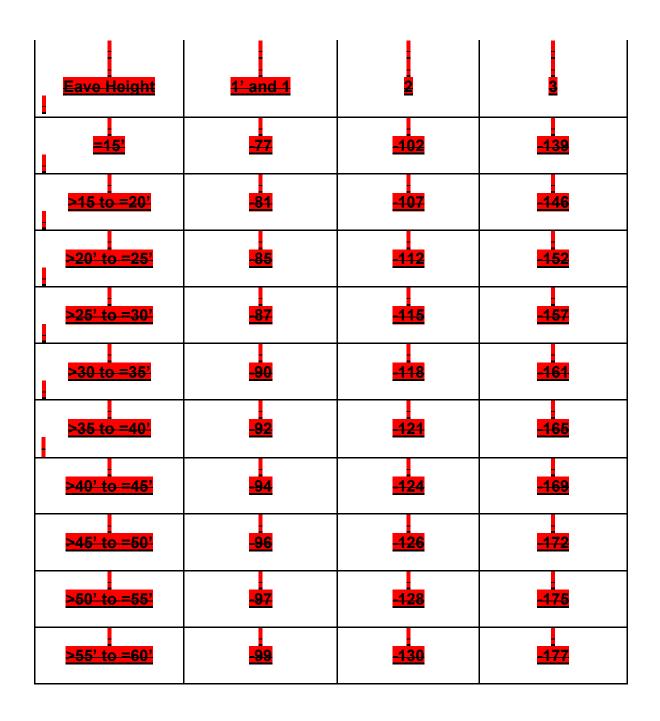
#### TABLE 2 — RISK CATEGORY II EXPOSURE CATEGORY "D"<sup>1,2</sup> MINIMUM DESIGN WIND UPLIFT PRESSURES, IN PSF FOR FIELD [Pasd(1)], PERIMETER [Pasd(2)] AND CORNER [Pasd(3)] AREAS OF ROOFS FOR EXPOSURE "D" **BUILDINGS** Pasd(2) Roof mean Pasd(1) (Field) Pasd(3) (Corners) height (below) (Perimeter) 20 <del>-51.4</del> <del>-129.7</del> <del>-86.2</del> <del>25</del> <del>-53.4</del> <del>-89.5</del> <del>-134.7</del> 30 - -55.0 <del>-92.3</del> <del>-138.9</del> <del>35</del> <del>-56.4</del> <del>-94.5</del> <del>-142.3</del> 40 <del>-57.7</del> <del>-96.8</del> <del>-145.6</del>

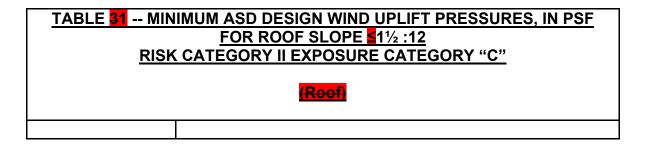
- 1 Calculated in accordance with ASCE 7.
- 2 Pasd = 0.6Pult











	Roof Pressure Zones			
Eave Height	<u>1'</u>	1	<u>2</u>	<u>3</u>
<u>₹15'</u>	<u>-37</u>	<u>-64</u>	<u>-84</u>	<u>-115</u>
>15 to <b>≦</b> 20'	<u>-39</u>	<u>-68</u>	<u>-89</u>	<u>-122</u>
>20' to <b>≤</b> 25'	<u>-41</u>	<u>-71</u>	<u>-94</u>	<u>-128</u>
>25' to <b>≤</b> 30'	<u>-42</u>	<u>-74</u>	<u>-97</u>	<u>-133</u>
>30 to <b>≤</b> 35′	<u>-44</u>	<u>-76</u>	<u>-101</u>	<u>-137</u>
>35 to <b>≤</b> 40'	<u>-45</u>	<u>-78</u>	<u>-103</u>	<u>-141</u>
>40' to <b>≤</b> 45'	<u>-46</u>	<u>-80</u>	<u>-106</u>	<u>-145</u>
>45' to <b>≦</b> 50'	<u>-47</u>	<u>-82</u>	<u>-109</u>	<u>-148</u>
>50' to <b>≤</b> 55'	<u>-48</u>	<u>-84</u>	<u>-111</u>	<u>-151</u>
<u>&gt;55' to <b>≤</b>60'</u>	<u>-49</u>	<u>-85</u>	<u>-113</u>	<u>-154</u>

# TABLE 42 -- MINIMUM ASD DESIGN WIND UPLIFT PRESSURES, IN PSF FOR ROOF SLOPE 1½:12 RISK CATEGORY II EXPOSURE CATEGORY "D"

### (Roof)

	Roof Pressure Zones			
Eave Height	<u>1'</u>	1	<u>2</u>	<u>3</u>
<u><b>≤</b>15'</u>	<u>-45</u>	<u>-77</u>	<u>-102</u>	<u>-139</u>
>15 to <b>≤</b> 20'	<u>-47</u>	<u>-81</u>	<u>-107</u>	<u>-146</u>
>20' to <b>≤</b> 25'	<u>-49</u>	<u>-85</u>	<u>-112</u>	<u>-152</u>
>25' to <b>≤</b> 30'	<u>-50</u>	<u>-87</u>	<u>-115</u>	<u>-157</u>
<u>&gt;30 to <b>≤</b>35'</u>	<u>-52</u>	<u>-90</u>	<u>-118</u>	<u>-161</u>
<u>&gt;35 to <mark>≤</mark>40'</u>	<u>-53</u>	<u>-92</u>	<u>-121</u>	<u>-165</u>
<u>&gt;40' to <mark>≤</mark>45'</u>	<u>-54</u>	<u>-94</u>	<u>-124</u>	<u>-169</u>
>45' to <mark>≤</mark> 50'	<u>-55</u>	<u>-96</u>	<u>-126</u>	<u>-172</u>
>50' to <b>≤</b> 55'	<u>-56</u>	<u>-97</u>	<u>-128</u>	<u>-175</u>
<u>&gt;55' to <mark>≤</mark>60'</u>	<u>-57</u>	<u>-99</u>	<u>-130</u>	<u>-177</u>