Technical Bulletin No. 1

TECH BULLETIN NO.1
Panelized Shingle Siding
140 TO 196 MPH Wind Tests

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Cedar Valley Panels Pass ASTM E-330 Wind Tests

Cerny & Ivey Engineers, Inc. and Ramtech Laboratories, Inc. performed uniform uplift testing on the Cedar Valley Shingle System, using the air bag method described in ASTM E-330. The panels passed wind suction analysis for walls, when installed on wood studs at 16": on center and fastened with 8d ring shank nails. Call the factory for data on the appropriate test for your area.

This test was passed without substrate, hence Cedar Valley panels are approved for applications direct to studs or over non-nailable substrates if shear is engineered in. (Cedar Valley panels do not provide shear values and require building paper.)

APPROVED FOR AREAS WHERE REQUIRED, INCLUDING FLORIDA AND SOUTH CAROLINA

Material Specification:

The Cedar Valley exterior sidewall panel system consists of 96-1/2" by 23" actual size (96" by 21-3/8" net coverage) panel of three courses of Western red cedar tapered shingles of 7-1/8" exposure bonded to a 5/16" exterior plywood. The shingle is bonded to the plywood with adhesive and 3/16" crown by 3/4" long by .038 and .048 staples (not exposed to weather). The top course is face-stapled with a minimum of two staples per shingle which will be covered by the overlapping shingle panel course. The remaining shingles are back-stapled with the same staple. Each shingle course contains a fiberglass mat interleaved under each shingle course.

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WIND ANALYSIS, NATIONAL BUILDING CODE ASCE 7-93
INSPECTION CONCEPTS, 141 ORANGE AVE., PARAMOUNT, CA.

FORHEIGHT<60 FEET, THE PRESSURE EQUATION IS:

P = qh[(GCp) - (Gcpi)]
p = pressure applied to cladding and components
qh= evaluated at mean roof height using Exposure C
GCp = 2.0
CGpi = ± 0.25
To solve for qh, set P = 98 psf, GCp = 2.0 & GCpi = 0.25
qh = (p)/([-2.0-.25]
qh = -43.73
qz = 0.00256Kz(IV)^2
V = (qh/(0.00256xKz)^.5
v = (44/(0.00256X1.19)^.5 = 120.2 mph

Assumptions

qz = 0.00256 Kz Kzt Kd V2 I (PSF) (ASCE 7-98 eq. 6-13) where p = qz(GCp-GCpi) (ASCE 7-98 eq. 6-18)
P=max test PSF / (2.5 Safety Factor) = (218.4 PSF)/(2.5SF) = 87.3 PSF (GCp-GCpi) = -1.48 for end zone areas = 20 Square Feet
Kz = as indicated (velocity pressure exposure coefficient in ASCE 7-98, Section 6.5.6.4 and Table 6-5)
Kzt = 1.0 (topographic factor in ASCE 7-98, Section 6.5.7.2 and Figure 6-2 assuming no nearby hills or escarpements)
Kd = 0.85 (wind directionality factor in Section 6.5.4.4 and Table 6-6)
V = Allowable maximum basic windspeed (mph - 3 second gust)
I = 1.0 (Importance factor Category II in ASCE 7-98, Tables 1-1 and 6-1)
Test Pressure from Cerny & Ivey Engineers Report 22270-4, ASTM E330

Velocity Pressure Coefficient Kz at Mean Roof Height z

Height	15-feet	20-feet	25-feet	30-feet	35-feet	40-feet
Exp B	0.70	0.70	0.70	0.70	0.73	0.76
Exp C	0.85	0.90	0.94	0.98	1.01	1.04

A complete copy of the test report is available on request from Cedar Valley Shingle Systems. Phone 800-521-8110, or FAX 831-636-9035, or write 943 San Felipe Road, Hollister, CA 95023.