



Intertek ETL SEMKO North America, Inc.  
8431 Murphy Drive  
Middleton, Wisconsin 53562  
608-836-4400 / Fax: 608-836-0050

**Intertek Test Report No. 3100366-001**

COLLECTION OF DATA FOR EVALUATION OF

**UFO Ballistic Nailscrews, UFO Ballistic Pow-R-Drives, and Competitors Fasteners**

FOR

Universal Fastener Outsourcing - LLC  
3980 Wedington, Suite 14  
Fayetteville, AR 72704  
(800) 352-0028

**TEST STANDARD:**

Products tested per client's specifications, in general accordance with the following tests standards:  
ASTM D1761 - 88 Standard Test Methods for Mechanical Fasteners in Wood  
ASTM F1575 - 03 Standard Test Method for Determining Bending Yield Moment of Nails

**SAMPLES:**

Test Samples were identified by the client according to the following product numbers:  
UFO Ballistic Nailscrews HDNS214113YZPH, HDNS134120YZSQ, HDNS212120YZSQ, HDNS212120YZPH,  
HDNS200131YZSQ, WCNS214113YZPH, WCNS212113YZPH, PTHDNS200113PH,  
PTHDNS300113PH, PTWCNS200113PH, PTWCNS212113PH, PTWCNS300113PH,  
HSNS112113YZPH, HDNS134120YZSQ  
Samples were received in good condition on 7/06/2006.

**TEST DATES:**

7/14//2006 - 7/28/2006

The attached summaries and data are results of the comparative product testing.

Report prepared by:

Jessup LeBarron  
Mechanical Engineer - Hardware Lab  
Building Products Group

Reviewed by:

Matt Hubert  
Project Manager - Hardware Lab  
Building Products Group

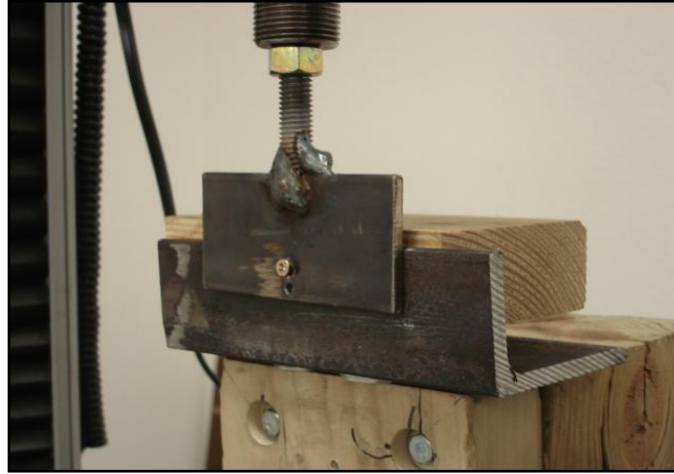
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**TEST METHODS**

**Test 1: Shear Test**

The shear test is performed in general accordance with ASTM D 1761 -88, Standard Test Methods for Mechanical Fasteners in Wood. Test specimens are held firmly in place with 0.25 inches of their head exposed. This exposed portion of the head of the fastener is loaded laterally at a constant rate of 0.1 inches per minute. Ten specimens per product are tested. Load at sample failure (maximum load) is reported.



**Figure 1: Test specimen in shear test**  
(NOTE: crosshead fixture is pushing down on specimen)

**Test 2: Bend Yield Strength**

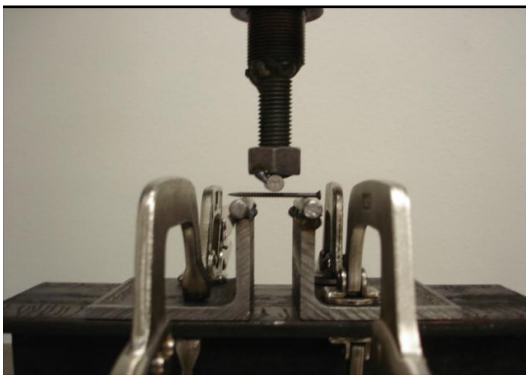
The bend yield strength test is performed in general accordance with ASTM F 1575-03, Standard Test Method for Determining Bending Yield Moment of Nails. The test is comprised of a conventional center-point bending test where the load span is determined in accordance with the following table from section 9.1 of the Test Standard:

**Table 1: Length Between Fastener Bearing Points**

Fastener Nominal Diameter (inches)	Load Span (inches)
0.099	1.1
0.113	1.3
0.120	1.4
0.131	1.5

Ten specimens per product are each loaded at a constant rate of 0.25 inches per minute. Load and deformation are both recorded as a function of time to produce a satisfactory load-deformation curve. Loading is continued until ultimate load is reached, i.e., load capacity begins to decrease.

Per the test standard, bending yield strength is determined by fitting a straight line to the initial linear portion of the load-deformation curve, and then offsetting this line by 5% of the nominal fastener diameter. Bending yield strength, as determined by the point where the offset line intersects the load-deformation curve, is reported.



**Figure 2: Test specimen prepared to undergo bend-yield test**



**Figure 3: Bend-yield test specimen at ultimate load**

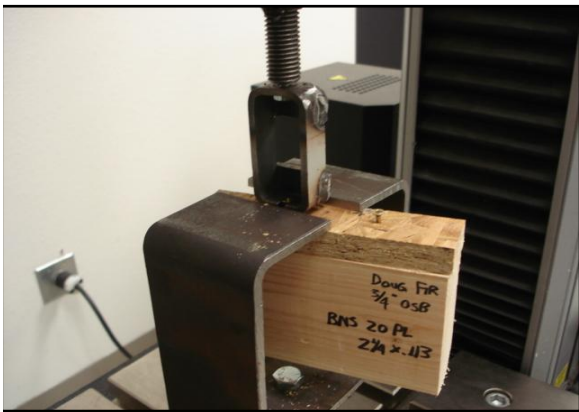
**TEST METHODS CONTINUED**



**Figure 4: Bend-yield test setup in Instron tensile machine, expanded view**

**Tests 3-6: Fastener Withdrawal (Pull-Out Resistance)**

Fastener withdrawal tests are performed in general accordance with ASTM D 1761-88, Standard Test Methods for Determining Bending Yield Moment of Nails. Ten specimens per product are tested for each of the client-specified test conditions. Fasteners are driven through their respective sheathing into the appropriate substrate using pneumatic nail guns both specified and provided by the client. Fasteners are installed such that their head extends 0.25 inches from the surface they are being pulled from, in order to accommodate attachment of a pulling device. Both substrate and sheathing are held in place firmly as the pulling device extracts the fastener at a constant pull rate of 0.1 inches per minute. Ultimate load is reported.



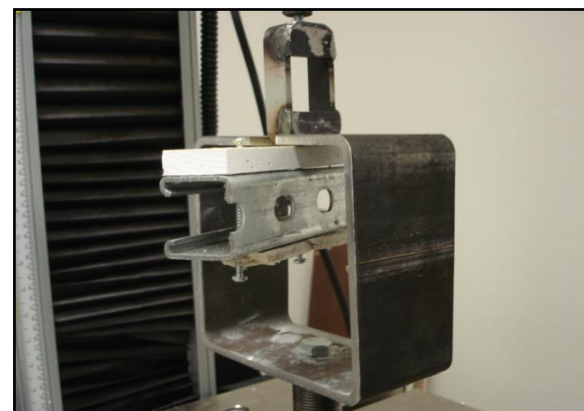
**Figure 5: Fastener withdrawal test, in-progress**



**Figure 6: Expanded view of fastener withdrawal test setup, including Instron test workstation.**



**Figure 7: Fastener withdrawal specimens, prepped and awaiting testing**



**Figure 8: fastener withdrawal test with galvanized steel substrate**

**STATEMENT OF MEASUREMENT UNCERTAINTY:**

ALL REPORTED FORCES ARE  $\pm 0.7$  LBS WITH A 95% CONFIDENCE LEVEL