US DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

May be used to comply with Occupational Safety and Health Administration
OSHA's Hazard Communication Standard, (Non-Mandatory Form)
29 CFR 1910.1200. Standard must be consulted for specific requirements
OMB No. 1218-0072 Form Approved

Section I

Manufacturer's Name Oz-Post International LLC 216 N Interurban Drive Richardson, TX 75081	Emergency Telephone Number Oz-Post 1-866-422-0751
Chemical Name Carbon, Alloy, and Galvanized Steel Parts	Telephone Number for Information 469-916-7503
Synonyms Steel Hardware, Galvanized Steel, Steel Fittings	

Section II – Hazard Ingredients/Identity Information

Composition Information on Ingredients

Chemical Name	CAS Number	% Range	OSHA PEL
Primary Metals			
Iron	7439-89-6	92	NA
Chromium	7440-47-3	1	1.0 mg/m^3
Nickel	7440-02-0	2	1.0 mg/m^3
Manganese	7439-96-5	1	5.0 mg/m^3
Silicon	7440-21-3	2.2	NA
Zinc, fume-dust (Galv Only)	7440-66-6	1.8	5.0 mg/m^3

Section III – Physical/Chemical Characteristics

Appearance and Odor Gray-Black or Silver Solid, Odorless	Solubility in Water Insoluble
Specific Gravity (H2O = 1) 7.0	Evaporation Rate (Butyl Acetate = 1) NA
Boiling Point NA Vapor Density (AIR = 1) NA	Chemical Formula NA
Vapor Pressure (mm Hg.) NA	Melting Point 1538°C 2800°F

Section IV = Fire and Explosion Hazard Data

Flash Point (Method Used) NA	Flammable Limits NA UEL NA
Extinguishing Media NA	Special Fire Fighting Procedures None

Section V – Reactivity Data

Conditions to Avoid Exposure to Flames	Hazardous Decomposition Products Reacts with strong acids to form hydrogen gas
Stability Stable	Hazardous Polymerization Metallic oxides produced during welding or burning
Incompatibility *(Materials to Avoid)* None known	

Section VI – Health Hazard Data

ROUTE OF EXPOSURE

INHALATION
Prolonged or repeated exposure to fumes or dusts generated during heating, cutting, brazing, or welding may cause adverse health effects.

SKIN
NA

INGESTION
NA

EYE
Prolonged or repeated exposure to fumes or dusts generated during heating, cutting, brazing, or welding may cause pain and irritation of eyes.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION
Move victim to fresh air. If breathing has stopped, administer CPR. Call a physician.

SKIN
Long pants and good personal hygiene will maximize comfort.

INGESTION
Call a physician or poison control center immediately.

EYE
Flush eyes with water and seek immediate medical attention.

Section VII – Precautions for Safe Handling and Use

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

No special precautions needed.

WASTE DISPOSAL METHOD

Dispose of as solid waste in accordance with local, state and federal regulations. Not considered a hazardous waste under federal RCRA regulations. This material is valuable as steel scrap in recycling.

SKIN PROTECTION/PROTECTIVE GLOVES

Wear protective gloves to reduce irritation from dust or sharp edges.

Project:	Dynamic Wind Loading on Oz-Post ™
Client:	Oz-Post ™, International 216 Interurban Richardson, TX 75081 469-916-7503
Witnessed By:	(All or Partial Viewing)
Ian Hill	Oz-Post ™, International
Blake Bassett	Oz-Post ™, International
Jeffrey Crump	Construction Consulting Laboratory, *International*
Wesley Wilson	Construction Consulting Laboratory, *International*
Test Performed At:	Construction Consulting Laboratory, *International*
Date Testing Started:	March 19, 2007
Date Testing Completed:	March 19, 2007

MOCK-UP DESCRIPTION

GENERAL DESCRIPTION: Oz-Post ™, International T-4 850 Oz-Post ™ Support was subjected to dynamic wind loading to simulate a hurricane force wind on a fence. The specimen's tested overall size is 16'-0" x 6'-0". The first specimen consisted of five (5) T-4 850 Oz-Post ™ Supports spaced 4' apart with an embedment of 32". The second specimen consisted of three (3) T-4 850 Oz-Post ™ Supports spaced 8' apart with an embedment of 32". A Pressure Treated Southern Yellow Pine 4" x 4" was then slipped into an Oz-Post ™ support and attached with two (2) #10 x 1½" screws at each side of the post, total of eight (8) screws. Pressure Treated Southern Yellow Pine 2" x 4" rails are attached to the post with 10d nails, three per connection. 1" x 6" planks attached to the rails with 6d nails, two (2) per rail, total of six (6) nails.

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: A Rezadad 4/11/07

TESTING AND RESULTS

Winds were generated by a Curtiss Wright 3350 Radial Aircraft Engine with a 13'-6" diameter four (4) blade propeller. To measure the wind generated from the engine a 1½" diameter hole was cut through the fence plank at the center of the fence approximately 10" below the top edge. A Dwyer Mark II Wind Speed Indicator with 175 blue indicating fluid was inserted through the hole and two (2) Bruton hand held Atmospheric Data Center meters were used. One Bruton meter was installed at the end of test specimen and the other was moved by hand, spot-checking wind velocities. The engine rigid mount pitot tube along with test console airspeed indicator were also used to measure wind speed.

At the time of testing the soil characteristics including the moisture content and void ratio for the site was not determined. In general the soil seemed to be clay type soil native to the North Texas area and fairly saturated from recent rain and timed irrigation. **Please note that soil conditions must be verified for each installation and is the responsibility of the installer.**

Test @ 120 Mph, 16'-0" x 6'-0" test specimen, Oz-Post ™ Support spaced 4 feet on center.

5-Minute Test Results: The fencing along with the Oz-Post ™ remained fully embedded in the soil. There was no visible damage and no separation of the wood posts to the Oz-Post ™ supports during the test. At test conclusion, there was a permanent set of 1" at the top mid-span of fence. Rocking the fence back and forth at test conclusion resulted in an observed ¾" movement of the Oz-Post ™ in the surrounding soil.

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: A Rezadad 7/11/07

16'-0" x 6'-0" test specimen with Oz-Post ™ Support spaced 8 feet on center.

The test specimen was subjected to a wind speed of **120 mph**. The test wind speed was applied for five (5) minutes.

5-Minute Test Results: Oz-Post ™ Supports remained embedded in the soil and there was no visible damage and no separation of the posts to the Oz-Post ™ Supports during the test. There was a permanent set of $1^{1}/_{8}$" at the top of fence but no permanent set at Oz-Post ™ Support. Rocking the fence back and forth at test conclusion again resulted in an observed ¾" movement of the Oz-Post ™ in the surrounding soil.

This report is composed for the exclusive use of Oz-Post ™, International. S-United, Inc. dba Construction Consulting Laboratory, *International* assumes no responsibility or liability for any use of this report by other parties.

The information contained in this report is proprietary and intended only for the use of the individual(s) to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure.

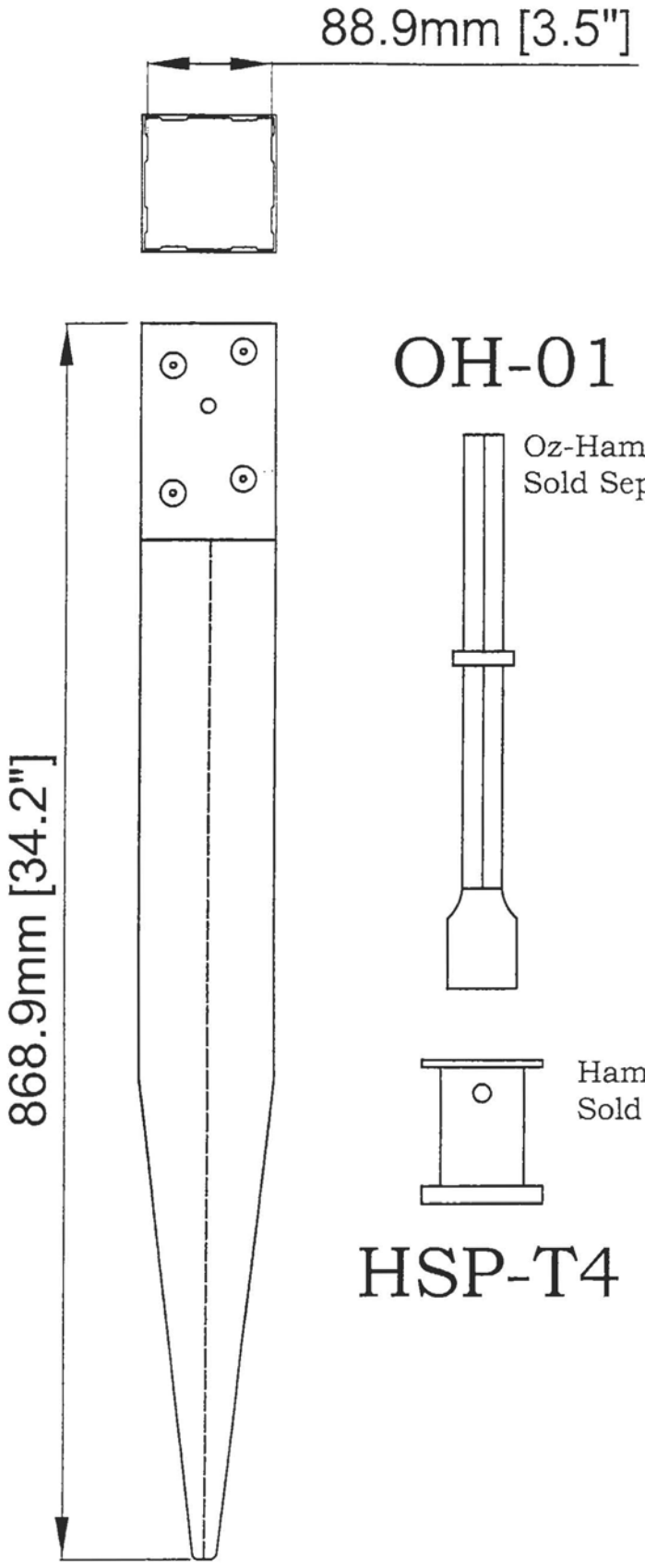
CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*

BRANDON NEWMAN
TESTING TECHNICIAN

WESLEY A. WILSON
LABORATORY MANAGER

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: 4/4/07



T4-850

OH-01

Oz-Hammer ™
Sold Separately

Hammer-Spacer ™
Sold Separately

HSP-T4

Project:	Compressive Load Test on Oz-Post ™
Client:	Oz-Post ™, International 216 Interurban Richardson, TX 75081 469-916-7503
Witnessed By:	(All or Partial Viewing)
Blake Bassett	Oz-Post ™, International
Jeffrey Crump	Construction Consulting Laboratory, *International*
Wesley Wilson	Construction Consulting Laboratory, *International*
Max Rezadad	Professional Cladding Systems
Test Performed At:	Construction Consulting Laboratory, *International*
Date Tested:	October 12, 2007

1. POST ASSEMBLY DESCRIPTION

The post assembly consisted of the Oz-Post™, International T-4 850 Oz-Post ™ and OD-T-4 Oz-Deck Deck Plate. The T-4 850 Oz-post inserts through cross-slots in the OD-T-4 Deck plate and as a post assembly was driven into a native North Texas regional soil using an Oz-post designed pneumatic jackhammer. The soil characteristics such as moisture content, void ratio and other parameters were not known at the time of testing. Upon contact between the deck plate and the soil, the hammer was allowed to dwell on the post for a period between 1-2 minutes to seat the plate onto the soil.

Florida Registered Professional Engineers Review Reg. #52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: 11/19/07

2. SCOPE

CCLI was requested by Oz-Post™, International to apply a downward compressive point load of 1800 lbs on Oz-Post specified above. Tests were performed to witness and document settlement observed on the post assembly at the deck plate and the deck post during a compressive load. Upon completion of the 1800 lbs test load, **CCLI** was requested to increase the compressive load until failure occurs or until reaching the rated load capacity of the test equipment. The first specimen consisted of one (1) T-4 850 Oz-Post ™. A Pressure Treated Southern Yellow Pine 4" x 4" x 10" was then slipped into an Oz-Post ™ support and attached with two (2) #10 x 1½" screws at each side of the post, total of eight (8) screws.

3. TESTING EQUIPMENT

The downward compressive test load was applied with an Enerpac hydraulic ram and cylinder. The test load was measured with an Omega S-Type load cell and indicated with an Omega digital indicator, Calibration Date effective till August, 2008 by Nicol Scales. The hydraulic cylinder was mechanically attached to a steel tube fixture with the ram and load cell aligned directly above the post assembly. Chicago dial indicators with maximum movement indicator arms were positioned on the test fixture, deck plate and the deck post to measure the amount of movement during the compression loading.

Florida Registered Professional Engineers Review Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: 11/19/07

4. TEST RESULTS

Indicator	Load	Movement	Load*	Movement	Load	Movement
#1 Deck Post	900 Lbs	.03"	**1800 Lbs**	.140"	2700 Lbs	.210"
#2 Deck Plate	900 Lbs	.02"	**1800 Lbs**	.100"	2700 Lbs	.160"
#3 Test Fixture	900 Lbs	.00"	**1800 Lbs**	.03"	2700 Lbs	.07

Indicator	Load	Movement	Load	Movement	Load	Movement
#1 Deck Post	3600 Lbs	.360"	4500 Lbs	.520"	5400 Lbs	.720"
#2 Deck Plate	3600 Lbs	.260"	4500 Lbs	.380"	5400 Lbs	.460"
#3 Test Fixture	3600 Lbs	.09"	4500 Lbs	.120"	5400 Lbs	.150

Indicator	Load	Movement	Load	Movement
#1 Deck Post	6300 Lbs	.910"	7200 Lbs	1.120"
#2 Deck Plate	6300 Lbs	.550"	7200 Lbs	.650"
#3 Test Fixture	6300 Lbs	.190"	7200 Lbs	.250"

Minimum compressive downward test load of 1800 Lbs. requested by Oz-Post International is based upon 6'-0" x 6'-0" post spacing representing a 50 psf total uniform load to a 36ft^2 tributary area. Appropriate safety factor must be used for the values specified in the above table.

Florida Registered Professional Engineers Review/Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: A Rezadad 11/19/07

5. CONCLUSION

The Oz-Post ™ post assembly resisted the above reported loads with no visible damage to the post or plate. The minimum load of 1800 Lbs. requested by Oz-Post was to evaluate the post assembly under a 50psf total uniform load over a 36ft^2 tributary area based upon a 6'-0" post spacing. The loads listed in section 4 would be the total load resisted. The reported loads results could vary dependent on deck design and construction and soil type which are the responsibility of the end user of this product.

This report is composed for the exclusive use of Oz-Post ™, International. S-United, Inc. dba Construction Consulting Laboratory, *International* assumes no responsibility or liability for any use of this report by other parties.

The information contained in this report is proprietary and intended only for the use of the individual(s) to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure.

CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*

JEFFREY CRUMP
TESTING MANAGER

BRYAN S. STEVENS
PRESIDENT

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2009 – Abdol Rezadad, P.E.

Signature: 11/19/07

May 8, 2007

REPORT OF: Salt Spray Testing

REPORT TO: Oz Post
Mr. Ian Hill
216 N. Interurban
Richardson, Texas 75081

DATE RECEIVED: April 25, 2007

IDENTIFICATION: 1 ea. Delgard Fence Section

PROCEDURES:
Salt spray corrosion testing was performed for up to 300 hours on the submitted sample per ASTM B-117-03 using a Harshaw Filtrol Chamber Model GS-SCH-22, S/N 32315, which was calibrated prior to use. Distilled water was used in the 5% salt solution preparation. The temperature readings averaged 97°F. The rate of salt solution collected in milliliters per hour was 1.07. The specific gravity of the solution collected at the chamber operating temperature was 1.040. The average pH of collected solution averaged 6.8.

RESULTS: ***Salt Spray Test*** – Note: All percentages are approximations based on visual examinations.

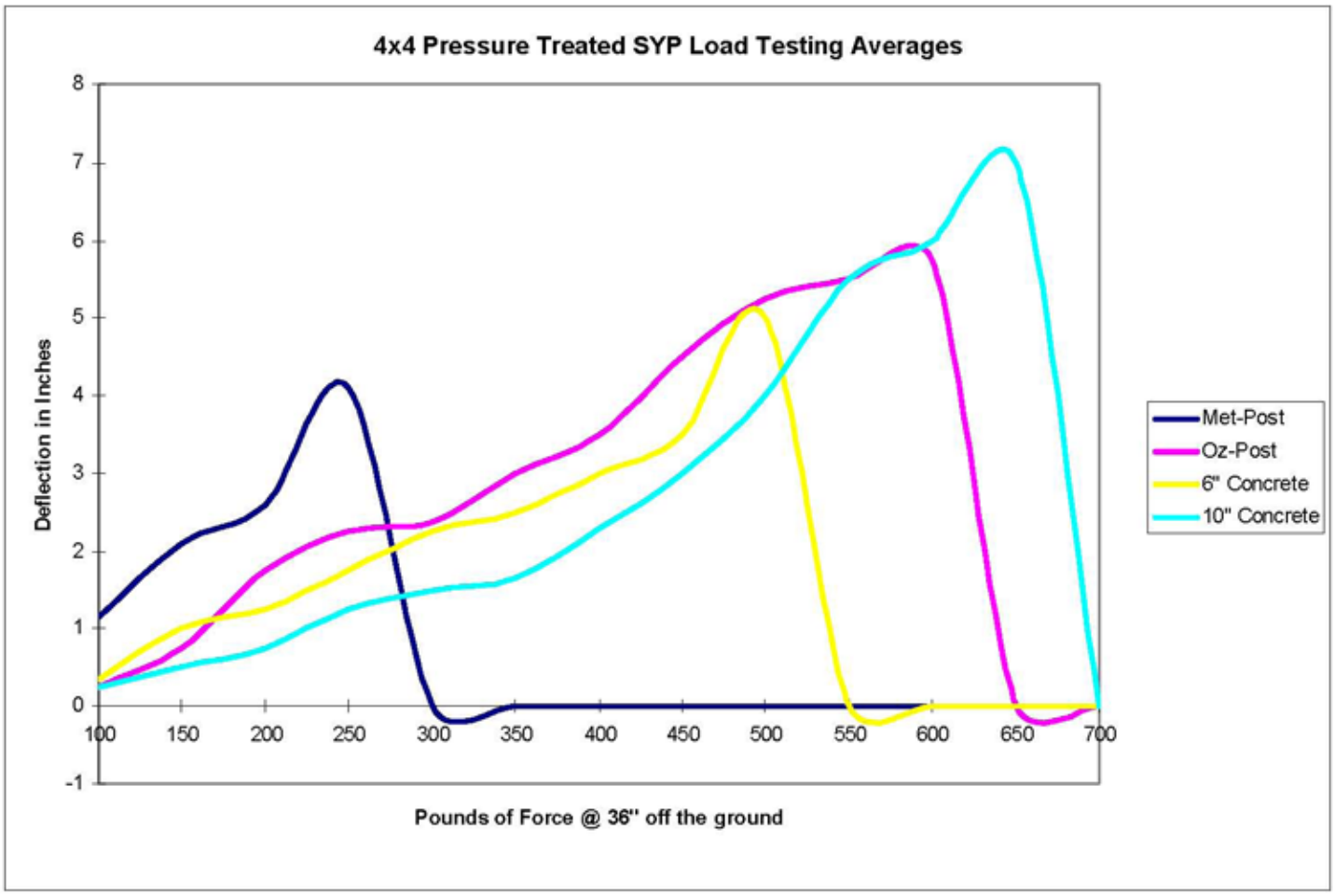
Hours	Observations
24	White corrosion products on both the painted (5%) and unpainted (25%) areas of the spike
72	90% corrosion product on the unpainted spike and streaking white corrosion products on the painted area
96	92% corrosion products on the unpainted spike and streaking white corrosion product on the painted area
144	Same on unpainted spike and painted area; no visble change
168	95% white corrosion products on unpainted spike, 95% corrosion on painted area
240	Only, corrosion products seen were on painted and unpainted areas of the spike

The aluminum fence section showed no evidence of degration due to galvanic reaction with the spike.

These results are based on the tests performed and are subject to change upon the receipt of new or additional information.

Respectfully submitted,

Douglas A. Stolk
Senior Engineer



These tests were performed on the same day in compacted sandy soil. All posts were installed using manufacturer's instructions and standard building procedures by experienced personnel. Load was applied with 2 ton manually actuated pulling device with a Chatillon load testing interment. Loads were applied in 50# increments until the product, post or soil failed. A horizontal load was applied at 36" off the surface of the ground on each of the different posts. The final load figures were based on an average of three separate tests for each post style. Test was performed December 26, 2006. All post holes were 24" deep.

Observations:

Oz-Post deflections from the no load position were slightly higher than the concreted posts and can be attributed to the tolerance between the wood post and the Oz-Post. This can be improved by using polyurethane glue to fill this tolerance gap. This was not done with these tests. Steel or aluminum posts with Oz-Post do not have this issue because of the tighter tolerance with the Oz-Post and the fact that these materials are more rigid than wood.

This testing was performed by Oz-Post personnel and is for discussion purposes only. This testing data is not intended to be used as engineering specifications for Oz-Post or the other post installations tested. The results are accurate and clearly show the similarities of the various installation techniques and their associated performance. The load performance may change under various soil conditions but the margin of difference between the various techniques should remain consistent.