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Investigative Chemistry Geotechnical Construction Materials
Non Destructive Testing Failure Analysis Product Evaluation
Metallurgical Analysis Materials Testing Welder Qualification

**TORQUE TEST OF
6mm HEX TOOLS**

**Prepared for:
BONDHUS CORPORATION
Attn: Mr. Mike Blackston
1400 E. Broadway
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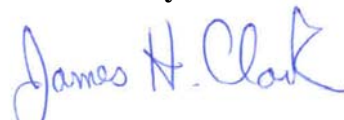
Client Purchase Order Number: 6-8-MB

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The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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INTRODUCTION:

This report presents the results of the torque testing of 6mm Hex Tools. Mr. Mike Blackston of the Bondhus Corporation submitted the samples to our laboratory on June 8, 2006.

The scope of our work was limited to determining the ultimate torque required to twist-off the hex tools and to provide a report of the results. The testing was completed on June 15, 2006.

SAMPLE IDENTIFICATION:

Four (4) 6mm Hex Tools in their original packages from the following Manufacturers were submitted for testing.

ASAHI Tools (Japan), DX2000 (AQ-0600) 6mm Hex Key Wrench, Ball Point Type.

Bondhus (USA), 6mm Ballpoint L-Wrench, Part# 10968.

Eight Brand (Japan), 6mm Taper Head Hexagon Key Wrench, TL-6.

PB Baumann (Switzerland), 212L-6.

Wiha (Germany), Hex L-Key long arm Nickel Plated 6mm Part# 35211.

SUMMARY OF RESULTS:

The maximum torque required in inch pounds (in-lb/NM) to fail the hex tools were as follows:

Tool	Manufacturer					
Sample	ASAHI	Bondhus	Eight Brand	PB Baumann	Wiha	
# 1	710 - 80.2	860- 97.2	785- 88.7	810- 91.5	660- 74.6	
# 2	680- 76.8	850- 96.0	790- 88.3	790- 89.3	800- 90.4	
# 3	700- 79.1	850- 96.0	780- 88.1	780- 88.1	730- 82.5	
# 4	700- 79.1	840- 94.9	770- 87.0	790- 89.3	790- 89.3	
Average	700- 79.1	850- 96.0	785- 88.7	790- 89.3	745- 84.2	

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PROJECT NUMBER: 30160 06-77182**PAGE** 3 of 3**DATE:** June 16, 2006**TEST METHODS:**

The torque testing was conducted by inserting the short arm of the tool into a 6mm socket (1/4" deep) connected to a 2,000 in-lb torque sensor. An extension tube was then placed over the long arm for increased leverage and the tool twisting clockwise. The first sign of twisting and the maximum torque obtained along with the mode of failure was documented for each tool sample.

TEST EQUIPMENT:

Lebow 2,000 in-lb Torque Sensor accuracy verified with Stork-TCT Torque Wrench No: MM120-007, NIST traceable calibration on 4-7-06, due 4-7-07

REMARKS:

The hex tools were returned to the Bondhus Corporation following the testing.

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