

TESTING REPORT

Procedure used: 3A - STANDARD 3A - SMALL
 3A - FLAT 3A - LONG VERSION DATE: 2008 (2014)

> ISTA CERTIFIED LABORATORY

Laboratory : HQTS QA International Services Co., Ltd.

ISTA Member ID : ST-1908

Address : Building B, Taineng Park, Xiyuan 6th Road

Email : pkg@hqts-qai.com

City, State/Prov : Hangzhou, Zhejiang

Phone: +86 571 88907007

ZIP/Postal Code, Country : 310030, CHINA

Report Number HQ163031669

> PRODUCT MANUFACTURER / SHIPPER

Test Requested by :XX

ISTA Member ID (if applicable) :

Company : XX

ISTA Manufacturer's License Number (if applicable) :

Address : XX

City, State/Prov :XX, XX

ZIP/Postal Code, Country :/, XX

> PRODUCT AND PACKAGE DESCRIPTIONS

Date Tested: May 6, 2016

Date Received: April 28, 2016

Number of Samples tested 1

Gross Weight 4.96lbs/2.25kg

External Dimensions (L x W x H) 14.2 " x 4.7 " x 4.9 "
360 mm x 120 mm x 125 mm

SKU/Item No.: 0601396080/GWS900

Product Description: Angle Grinder

PACKAGE Condition before testing: No damage

The PACKAGING used during testing was:
 ORIGINAL as arrived in the lab for testing
 NEW re-packaged with new materials before testing

Did the lab OPEN the packaged-product before testing to determine product condition? YES NO

PACKAGE Description: Components of the Angle Grinder were packed into plastic bag or fixed by corrugated board, and then packed into a master carton box.

> TEST RESULTS

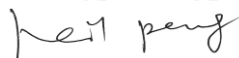
PRODUCT Condition after testing (if inspected): Found rust mark on one component; no other obvious change and product operated well.

PACKAGE Condition after testing: No obvious change.

Pass Fail Actual Finding

Comments or recommendations:

> AUTHORIZED BY



Neil Peng
General Manager

HQ-PTR01-038/12

Page 1 of 8

This document shall not be replicated in part (except in full) without written approval by HQTS-QAI.
The results shown in this Test Report refer only to the sample(s) tested.
The sample description is based on the information provided by applicant.

HQTS QA International Services Co., Ltd.

Building B, Taineng Park, Xiyuan 6th Road, Hangzhou, Zhejiang, China.
Tel: 86-571-88905188 Web: www.hqts-qai.com Email: comment@hqts-qai.com

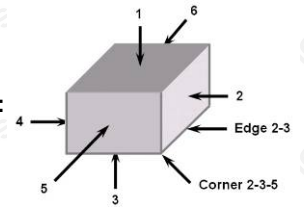
TEST METHODS PROCEDURE 3A

> ORIENTATION

What position was the packaged-product in when the faces, edges and corners were identified:

MOST STABLE SHIPPING

Explain position if different than procedure recommendation:



> ATMOSPHERIC CONDITIONING

Start of Preconditioning(Ambient):

Temperature (°C) 12

Humidity (%) 54

End of Preconditioning:

Temperature (°C) 13

Humidity (%) 60

Duration: 24h

Start of Conditioning(Controlled):

Temperature (°C) 38

Humidity (%) 85

End of Conditioning:

Temperature (°C) 38

Humidity (%) 85

Duration: 72h

> SHOCK TEST FIRST DROP SEQUENCE (FOR SMALL: DO NOT TEST IN BAG)

Shock Sequence Number	Height of Shock (inches / mm)	Orientation of packaged-product (ex: Face 6; Corner 2-3-5, Edge 3-5)		Was packaged-product CAUGHT to prevent tipping over? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
1	18 / 460	EDGE	Edge 3-4	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
2	18 / 460	EDGE	Edge 3-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
3	18 / 460	EDGE	Edge 4-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
4	18 / 460	CORNER	Corner 3-4-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
5	18 / 460	CORNER	Corner 2-3-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
6	18 / 460	EDGE	Edge 2-3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
7	18 / 460	EDGE	Edge 1-2	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
8	36 / 910	FACE	Face 3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
9	18 / 460	FACE	Face 3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

TEST METHODS PROCEDURE 3A

> VIBRATION UNDER DYNAMIC LOAD OVER-THE-ROAD

>> FOR STANDARD, FLAT, LONG:

	Formula, with values, used to calculate Top Load	Calculated Top Load	Actual Top Load Used	Total Test Time	Face resting on platform
TL-H	$(108-H) \times L \times W \times 0.0035$	11.12 kg	12 kg / 25 lbs	60 mins	Face 3
TL-W	$(108-W) \times L \times H \times 0.0035$	11.61 kg	12 kg / 25 lbs	30 mins	Face 4
TL-L	$(108-L) \times W \times H \times 0.0035$	3.51 kg	/	30 mins	Face 6

>> FOR ALL: OVER THE ROAD

(FOR SMALL: TEST IN BAG)

Describe restraining devices used, if any: Steel Arms

Use the spaces below to record frequency and PSD levels used:

Frequency (Hz)	PSD Level, g^2 / Hz
1	0.007
3	0.02
5	0.02
7	0.001
12	0.001
15	0.004
24	0.004
28	0.004
36	0.001
42	0.003
75	0.003
200	0.000004
Overall Grms:	0.53

>> FOR ALL: PICK-UP AND DELIVERY (FOR SMALL: DO NOT

TEST IN BAG)

Describe restraining devices used, if any: Steel Arms

Face resting on platform: Face 3 Total test time: 30 min

Use the spaces below to record frequency and PSD levels used:

Frequency (Hz)	PSD Level, g^2 / Hz
1	0.001
3	0.035
4	0.035
7	0.003
13	0.003
15	0.001
24	0.001
29	0.0001
50	0.0001
70	0.002
100	0.002
200	0.00005
Overall Grms:	0.46

> SHOCK TEST SECOND DROP SEQUENCE (FOR SMALL: TEST IN BAG)

Shock Sequence Number	Height of Shock (inches / mm)	Orientation of packaged-product (ex: Face 6; Corner 2-3-5, Edge 3-5)		Was packaged-product CAUGHT to prevent tipping over? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
		EDGE	EDGE	
10	18 / 460	EDGE	Edge 3-4	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
11	18 / 460	EDGE	Edge 3-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
12	18 / 460	EDGE	Edge 1-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
13	18 / 460	CORNER	Corner 3-4-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
14	18 / 460	CORNER	Corner 1-2-6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
15	18 / 460	CORNER	Corner 1-4-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
16	36 / 910	FACE	Face 5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
17 (on hazard, as applicable)	18 / 460	FACE	Face 3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

PHOTO ATTACHMENT



Sample before test



Drop test



Vibration test



Sample after test

TO BE CONTINUED

PHOTO ATTACHMENT



Box open



Internal packaging 1)



Internal packaging 2)



Found rust mark

TO BE CONTINUED

PHOTO ATTACHMENT



Details of rust mark



Unit product



Top Load Apparatus Used

HQ-PTR01-038/12

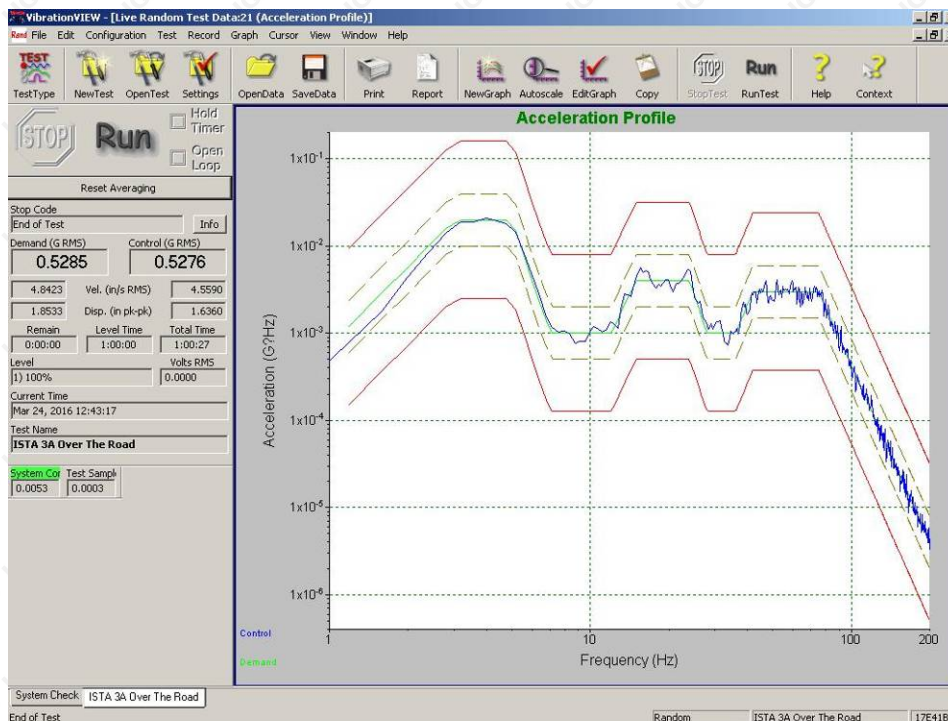
Page 6 of 8

This document shall not be replicated in part (except in full) without written approval by HQTS-QAI.
The results shown in this Test Report refer only to the sample(s) tested.
The sample description is based on the information provided by applicant.

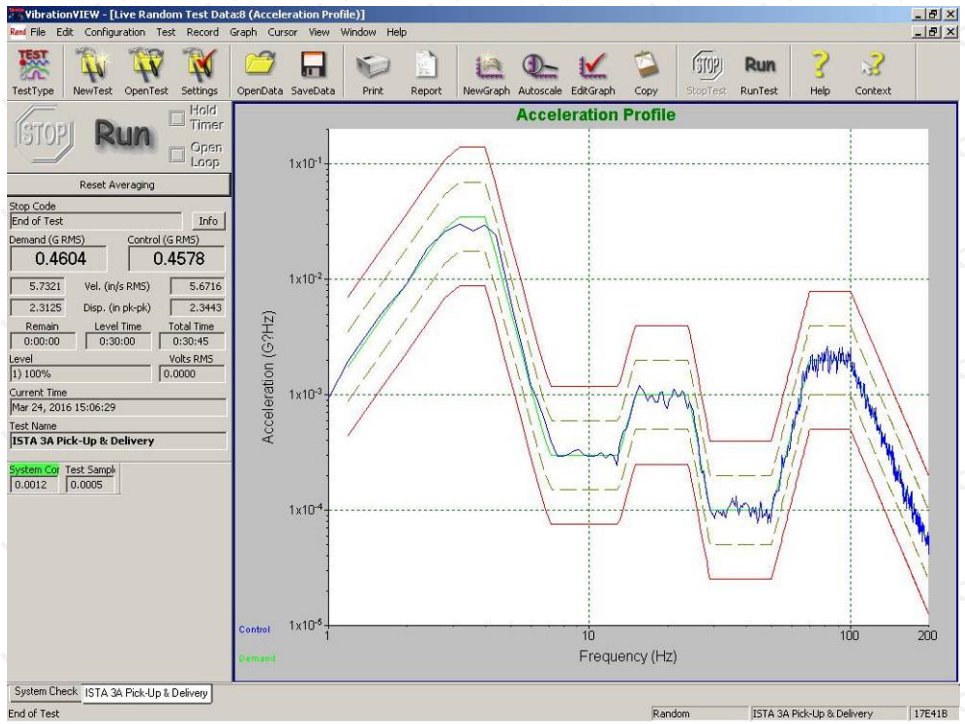
HQTS QA International Services Co., Ltd.

Building B, Taineng Park, Xiyuan 6th Road, Hangzhou, Zhejiang, China.
Tel: 86-571-88905188 Web: www.hqts-qai.com Email: comment@hqts-qai.com

PHOTO ATTACHMENT



ISTA 3A - Over-the-Road Trailer Spectrum



ISTA 3A - Pick-up and Delivery Vehicle Spectrum

 END OF REPORT