



QualiTest® Diagnostics

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December 17, 2021

Milwaukee Tools
Greenwood, MS

The following is a summary of findings from the A2021 monthly vibration survey of the Heat Treat Quench Motors. Please let us know if there are any questions or comments.

QualiTest® uses a four step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

Class III: Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

Heat Treat Motors

Heat Treat Motor 1

. Motor 1 was down for P.M work when I was on site this month, no data was collected for December. No actions necessary at this time

Heat Treat Motor 2

Vibration appeared to be within acceptable limits this survey. No actions necessary currently.

As always, it has been a pleasure to serve Milwaukee Tools Greenwood, MS. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

Chris Senter

ISO Certified Vibration Analyst, Category I



QualiTest® Diagnostics

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Abbreviated Last Measurement Summary

Database: Milwaukee Tools.rbm

Area: HEAT TREAT SYSTEMS

Route No. 1: HEAT TREAT

Report Date: 17-Dec-21 12:25

<u>MEASUREMENT POINT</u>	<u>OVERALL LEVEL</u>	<u>HFD / VHFD</u>
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<u>MOTOR #2 - HEAT TREAT MOTOR #2 (14-Dec-21)</u>		
<u>OVERALL LEVEL 1K-20KHz</u>		
<u>MOH - MOTOR OUTBOARD HORIZONTAL</u>	<u>.146 In/Sec</u>	<u>.106 G-s</u>
<u>MOV - MOTOR OUTBOARD VERTICAL</u>	<u>.103 In/Sec</u>	<u>.091 G-s</u>
<u>MIH - MOTOR INBOARD HORIZONTAL</u>	<u>.049 In/Sec</u>	<u>.202 G-s</u>
<u>MIV - MOTOR INBOARD VERTICAL</u>	<u>.037 In/Sec</u>	<u>.158 G-s</u>
<u>MIA - MOTOR INBOARD AXIAL</u>	<u>.027 In/Sec</u>	<u>.155 G-s</u>

Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK