HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

February 8, 2022

Plaskolite

Subject: February vibration report

Most of the machines surveyed were found to be in good condition, with exception of the following:

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.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

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Reportable Equipment

Blower Slow Cooling (Lower)
The overall acceleration is over 14g's peak for the motor drive end bearing. Higher frequency data shows impacting in the acceleration time waveform just over 50 g's peak and the velocity overall at over 0.5"/second peak. Speed affects vibrations. It appears fluting is still the issue. We believe the bearing damage needs to be addressed in the future. Replace the bearings or complete motor as time allows. Take steps to reduce bearing fluting going forward. **Rated a Class II Defect.**

Blower Rapid Cooling (Upper)
The overall acceleration is over 14g's peak for the motor drive end bearing. Non-synchronous harmonics are evident in the spectrum. We believe the bearing damage needs to be addressed in the future. Electrical fluting could be the root cause. Replace the bearings or complete motor as time allows. The motor also shows what looks to be a large drop in vibration at shaft speed. Inspect unit fasteners and drive train components for wear. **Rated a Class I Defect.**

Blower Slow Cooling (Upper), and Rapid Cooling (Lower)
The overall acceleration is still high for the motor drive end bearings. Non-synchronous harmonics are evident in the spectrum. We believe the bearing damage needs to be addressed in the future. Electrical fluting could be the root cause. Replace the bearings or complete motor as time allows. Inspect unit fasteners and drive train components for wear. **Rated a Class I Defect.**

Hot Water Pump 4
Overall vibration is above 0.5"/second velocity peak. The vibration is dominated by a shaft speed. Check all fasteners. The pumps could also be slightly worn. Water levels can also affect the vibrations. Trim balancing might help. **Rated a Class I Defect.**

Hot Water Pump 5
Overall vibration is 0.37"/second velocity peak. The vibration is dominated by a shaft speed. Check all fasteners. The pumps could also be slightly worn. Water levels can also affect the vibrations. Trim balancing might help. **Rated a Class I Defect.**

Abbreviated Last Measurement Summary

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Database: mmaold.rbm
Station: PLASKOLITE MEMPHIS
Route No. 3: PLASKOLITE NEW
Report Date: 08-Feb-22 08:48

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
5285-12 - FAN,COOLING TWR EAST	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
E1	.0099 In/Sec	.0044 G-s	430.0 RPM
	OVERALL LEVEL	HFD (>5 kHz)	
E2	.033 In/Sec	.0011 G-s	
5214-04 - EAST SYRUP COOL PUMP	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
11	.048 In/Sec	.047 G-s	1180.0 RPM
21	.034 In/Sec	.102 G-s	
23	.021 In/Sec	.140 G-s	
31	.095 In/Sec		
61	.076 In/Sec		
71	.116 In/Sec	.022 G-s	
81	.075 In/Sec	.046 G-s	
5214-03 - MIDDLE SYRUP COOL PUMP	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
11	.073 In/Sec	.110 G-s	1180.0 RPM
21	.062 In/Sec	.073 G-s	
23	.109 In/Sec	.040 G-s	
31	.130 In/Sec		
61	.086 In/Sec		
71	.128 In/Sec	.047 G-s	
81	.112 In/Sec	.059 G-s	
5214-01 - WEST SYRUP COOL PUMP	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
11	.060 In/Sec	.125 G-s	1180.0 RPM
21	.082 In/Sec	.178 G-s	
23	.076 In/Sec	.082 G-s	
31	.126 In/Sec		
61	.198 In/Sec		
71	.185 In/Sec	.600 G-s	
81	.092 In/Sec	.024 G-s	
5282-03 - PUMP #2 HOT WATER 5282-03	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
11	.067 In/Sec	.326 G-s	1800.0 RPM
12	.147 In/Sec	.396 G-s	
5282-05 - PUMP #4 HOT WATER 5282-05	(07-Feb-22)		
	OVERALL LEVEL	1-20 KHz	
11	.523 In/Sec	.469 G-s	1800.0 RPM
12	.248 In/Sec	.368 G-s	

5282-06	- PUMP #5 HOT WATER 5282-06	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.372 In/Sec	.583 G-s	1800.0 RPM
12		.273 In/Sec	.784 G-s	
5283-01	- BLOWER, EDGE WATER REMOVAL	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.132 In/Sec	.052 G-s	3600.0 RPM
21		.137 In/Sec	.119 G-s	
23		.088 In/Sec	.197 G-s	
71		.050 In/Sec	.527 G-s	
81		.121 In/Sec	.408 G-s	
5281-12	- BLOWER,SLOW COOLING (UPPER)	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.076 In/Sec	1.920 G-s	1770.0 RPM
		OVERALL LEVEL	1-20 KHz	
21		.095 In/Sec	7.204 G-s	
23		.077 In/Sec	.669 G-s	
71		.052 In/Sec	.335 G-s	
81		.094 In/Sec	.065 G-s	
5281-13	- BLOWER,SLOW COOLING (LOWER)	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.081 In/Sec	5.141 G-s	1770.0 RPM
21		.119 In/Sec	14.13 G-s	
		OVERALL LEVEL	1-20 KHz	
21H		.577 In/Sec	15.47 G-s	
		OVERALL LEVEL	1-20 KHz	
23		.078 In/Sec	2.971 G-s	
71		.055 In/Sec	.302 G-s	
81		.048 In/Sec	.247 G-s	
5281-14	- BLOWER,RAPID COOLING (UPPER)	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.080 In/Sec	4.148 G-s	1770.0 RPM
21		.126 In/Sec	14.04 G-s	
23		.137 In/Sec	2.180 G-s	
71		.075 In/Sec	.348 G-s	900.0 RPM
81		.059 In/Sec	.269 G-s	
5281-08	- BLOWER,RAPID COOLING (LOWER)	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.145 In/Sec	3.136 G-s	1770.0 RPM
21		.138 In/Sec	14.04 G-s	
23		.060 In/Sec	4.642 G-s	
71		.126 In/Sec	.381 G-s	900.0 RPM
81		.149 In/Sec	.432 G-s	
5281-10	- 200 BELT DRIVE, POLYMERIZER	(07-Feb-22)		
		OVERALL LEVEL	1-20 KHz	
11		.030 In/Sec	1.135 G-s	1800.0 FPM
21		.035 In/Sec	.728 G-s	
33		.0086 In/Sec	.028 G-s	
31		.021 In/Sec	.126 G-s	
61		.0049 In/Sec	.060 G-s	

71	.0029	In/Sec	.0017 G-s
81	.0051	In/Sec	.0013 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	PK
Vel	-->	In/Sec	PK
HFD	-->	G-s	PK