Hi-Speed Industrial Service
7030 Ryburn Dr
Millington, Tn 38053
901-873-5300

AC Inspection as Found

ARKEMA, INC.
2571 Fite Road
Memphis, TN 38127

FolderID: 153189
FormID: 20989729

AC Inspection - Rev. 2

Location:	MLMR Shop
Serial Number:	
Description:	125 HP

Hi-Speed Job Number:	153189
Manufacturer:	Siemens
HP/kW:	125 (HP)
RPM:	1785 (RPM)
Frame:	444T
Voltage:	460
Current:	145 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	None
Coupling/Sheave:	None
Date Received:	07/11/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **8 - Good**

Overall Condition

1.	Report Date	**07/12/2024**

2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3

	4.	Describe the Overall Condition of the Equipment as Received ***Failed electrical tests and requires rewind. Additional requires machine work to bearing fits***	
Initial Mechanical/Electrical			
●	5.	Does Shaft Turn Freely?	**(Y) Yes**
●	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	7.	Does Shaft Have Visible Damage?	**(No) No**
●	8.	Assembled Shaft Runout	**0.003 Inches**
	9.	Assembled Shaft End Play	**0.002 inches**
	10.	Air Gap Variation <10%	**No Provisions for measurement**
●	11.	Lead Condition	**(P) Pass**
	12.	Lead Length	**22 Inches**
●	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
	14.	Lead Numbers	**11,22,33**
	15.	Frame Condition	**Pass**
●	16.	Fan Condition	**(P) Pass**

17. Broken or Missing Components P17

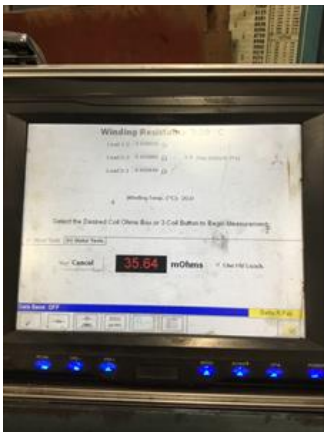
Fins broke of by fork lift driver at Arkema.

Initial Electrical Inspection

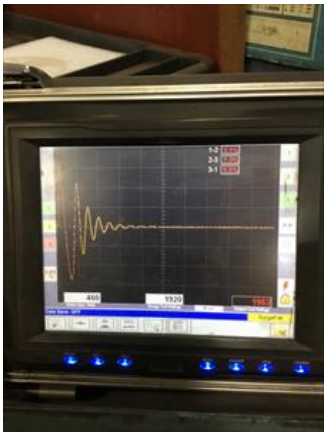
18. Insulation Resistance/Megger **100000 Megohms**

19. Winding Resistance P19

1-2	1-3	2-3
.03603	**.03396**	**.03564**



20. Perform Surge Test **(F) Fail** P20



21. Number of Stator Slots **48**

22. Stator Condition **Requires rewind**

23.	Stator Thermistors/Ohms	**N/A**	
24.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

25.	Drive End Bearing Brand	**NTN**	P25

26.	Drive End Bearing Number-	**6318 Z C3**	
27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**None**	
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Snap Ring**	
32.	Drive End Bearing Condition	**Normal wear**	P32

33.	Opposite Drive End Bearing Brand	**NSK**	P33

34.	Opposite Drive End Bearing Number-	**6316 ZC3**
35.	Opposite Drive End Bearing Qty.	**1**
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**None**
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy Washer**
40.	Opposite Drive End Bearing Condition	**Normal wear** P40

41.	Drive End Seal	**None**
42.	Opposite Drive End Seal	**None**

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**36**
46.	Rotor Condition	**Pass**
47.	List the Parts needed for the Repair Below	

6318 C3
6316 C3
Rewind

48. Signature of Technician that Disassembled Motor **Brandon Woodard**

Mechanical Fits- Rotor

49. Shaft Runout **0.001 inches**

50. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.001	**0.001**	**0.001**

51. Coupling Fit Closest to Bearing Housing P51

0 Degrees	90 Degrees	120 Degrees
3.375	**3.375**	**3.375**

52. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
3.375	**3.375**	**3.375**

53. Drive End Bearing Shaft Fit P53

0 Degrees	60 Degrees	120 Degrees
3.5439	**3.5439**	**3.5439**

Tolerance is 3.5434-3.5440

54. Drive End Bearing Shaft Fit Condition **(P) Pass**

55. Opposite Drive End Bearing Shaft Fit P55

0 Degrees	60 Degrees	120 Degrees
3.1501	**3.1501**	**3.1501**

Tolerance is 3.1497-3.1502

56. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass**

57. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit P58

0 Degrees	60 Degrees	120 Degrees
7.4815	**7.4815**	**7.4815**

Tolerance is 7.4803-7.4814

59. Drive End - Endbell Bearing Fit Condition **(P) Pass**

60.	Opposite Drive End - Endbell Bearing Fit			P60
	0 Degrees	60 Degrees	120 Degrees	
	6.6968	**6.6962**	**6.6964**	

Tolerance is 6.6929-6.6939. Out of tolerance and requires bore and bushing installed

61.	Opposite Drive End - Endbell Bearing Fit Condition		**(F) Fail**
62.	Bearing Cap Condition		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	Pass	**Pass**	
63.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	
64.	List Machine Work Needed Below		
	Bore and install bushing in opposite drive end endbell.		
65.	Technician		**Brandon Woodard**

Root Cause of Failure

66.	Failure locations
67.	Root cause of failure