

CASE STUDY

Hitachi 6 HI Cold Rolling Mill
IMR Bearing Lubrication

STARGREASE HV

M/s Urjaa Metalics Pvt Ltd

Bawal, Rewari District (Haryana)

LUBRILOG INDIA; Amit Kumar, Rishi A Batta

November 2024





The Customer

- This unit started its operations in Oct 2012 as ACCIL AUTO STEELS PRIVATE LIMITED and has one of the largest Cold Rolling Mill with an installed capacity 300000 MT per annum for different industries.
- In July 2024, this unit has been renamed as URJAA METALICS PRIVATE LIMITED.



Equipment Details



- 6 HI Cold Rolling Mill
- OEM: HITACHI
- Material: Low, Medium & High Carbon steel Strips
- Speed: 1200 MPM
- Strip Thickness Input: 1.6-5 MM
- Strip Thickness Output: 0.13-3 MM
- Strip Width: 700-1350 MM
- Strip Tension: 13 MT max.



Application Details



- Location: IMR Bearing
- Speed: 1000 MPM
- Max Temperature: 80°C
- Load: 14700 kg (14.7 Ton)
- Relubrication: 20-25 days or 7-8K Ton Production
- Lubrication Method: Manual
- Grease Consumption in one choke: 1 kg

- Prevailing Lubricant: KYODO PALMAX RBG
- Bearing Details
 - Make: NSK
 - Type: Double Row Tapered Roller Bearing

Lubrilog Proposals



STARGREASE HV

- High Viscosity Lubricating Film 40°C – 460 mm²/s
- Excellent film thickness avoids metal to metal contact so Reduction in wear, temperature with excellent load carrying capacity
- Good corrosion protection
- Excellent water- resistance properties with formulation calcium sulfonate Thickener
- Good temperature range -25 to +180°C

STARGREASE MV

- Viscosity Lubricating Film 40°C – 220 mm²/s
- Good film thickness for high rotary motion.
- Good corrosion protection
- Excellent water- resistance properties with formulation calcium sulfonate Thickener
- Good temperature range -30 to +180°C

Product Comparisons



PROPERTIES	KYODO PALMAX RBG	STARGREASE HV	STARGREASE MV	REMARKS
Base Oil	Mineral	Mineral	Mineral	
Thickener	Spl Lithium Complex	Calcium Sulfonate Complex	Calcium Sulfonate Complex	Better in water resistance & load carrying capacity
Base Oil Viscosity @ 40 deg C	Not Available	460	220	<ul style="list-style-type: none"> • Optimum base oil viscosity • Adequate lubricant film protection to the bearing rolling elements and the races • Improved bearing life
Drop Point, deg C	215	> 300	> 300	<ul style="list-style-type: none"> • Better stability of the thickener structure • Better Oxidation Stability of the grease during operation
4-Ball Weld Load Test	3923 N	4000 N	4000 N	Slightly Better wear preventive The grease film has high load-carrying ability
Service Temperature Range	-10 to +150°C	-25 to +180°C	-30 to +180°C	Better in Temperature range

Bearing Greasing: STARGREASE MV

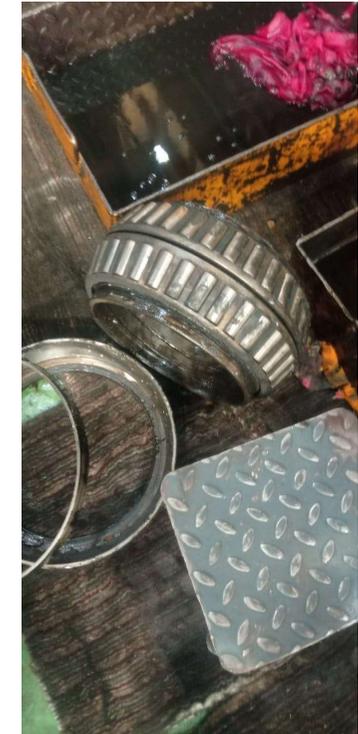


LUBRILOG www.lubrilog.fr			
PERFORMANCE/ SERVICE REPORT			
CUSTOMER: <i>Jaya Metals Pvt Ltd</i>		INDUSTRY: <i>Steel Industry</i>	
ADDRESS: <i>Bawal, Rewari Haryana</i>			
DEPARTMENT: <i>Maintenance</i>	CONCERNED PERSON: <i>Mr. Bedwal Ji</i>		DESIGNATION: <i>FIOD</i>
MACHINE:	COMPONENT:	BASE METAL/APPN AREA:	WEAR FACTOR:
<i>Hitachi Mill</i>	<i>IMR</i>	<i>Bearing</i>	
SERVICE CONDITION: <i>Customer required relubrication in 20 days or 210-10K Ton Production</i>			
PROBLEM IDENTIFIED: <i>They want to alternative supplier & cost saving.</i>			
Solution Recommended			
<i>Lubrilog Stargrease MV</i>			
Job Photo/ Sketch	EARLIER PRACTICES: <i>1.5kg grease in one side of choke bearing</i> ORIGINAL/ EARLIER LIFE: <i>7 to 8 ton production Relubrication</i> PRODUCT & PROCESS RECOMMENDED: <i>Palmax RBl & Manual</i> EXTENDED LIFE, IF ANY: ORIGINAL/ EARLIER COST: <i>2150/kg</i> INPUT COST: SAVINGS, IF ANY:		
CUSTOMER REMARKS / OBSERVATION ON COMPLETION OF WORK / TRIAL <i>Trial start on 23rd Aug in IMR Bearing</i>			
CUSTOMER REMARKS / OBSERVATION WHILE IN PROGRESS:			
FINAL REMARKS BY CUSTOMER: <i>Bearing open on 10th September & total production completed 4300 ton, not satisfied the grease performance.</i>			
Lubrilog Executive Signature & Date <i>Anant</i>		Customer Signature, Seal & Date <i>[Signature]</i> <i>20/11/24</i>	

- Trial Start: 23rd August 23, 2024
- Trial Concluded: September 10, 2024
- Total Production completed 4300 Ton
- Customer Not satisfied with performance

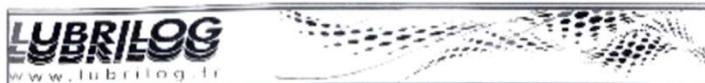


Bearing Greasing: STARGREASE HV



- Trial Started: September 16, 2024

- Trial Concluded: October 9, 2024
- Total Production Completed: 8213 Ton
- Similar Life as Palmax RBG



PERFORMANCE/ SERVICE REPORT

CUSTOMER: *Ujrac Metalics Pvt Ltd* INDUSTRY: *Steel Industry*

ADDRESS: *Banaf, Rensari Haryana*

DEPARTMENT: *Maintenance* CONCERNED PERSON: *Ms. Behwal Ji* DESIGNATION: *HOD*

MACHINE	COMPONENT	BASE METAL/APPX AREA	WEAR FACTOR
<i>Hitachi Mill</i>	<i>JMR</i>	<i>Bearing</i>	

SERVICE CONDITION: *Customer requires Relubrication in 20 days or 2k-10k Ton Production*

PROBLEM IDENTIFIED: *They want to alternative supplier & cost saving*

Solution Recommended

Lubrilog Stargrease HV

<i>Job Photo Sketch</i>	EARLIER PRACTICES: <i>1.5 kg grease in one side of chock bearing</i>
	ORIGINAL/EARLIER LIFE: <i>7 to 8 ton Production Relubrication</i>
	PRODUCT & PROCESS RECOMMENDED: <i>Palmax RBG & Manual</i>
	EXTENDED LIFE, IF ANY: <i>Same in life</i>
	ORIGINAL - EARLIER COST: <i>2150/kg</i>
	NPWT COST: <i>2150/kg</i>
	SAVINGS, IF ANY: <i>100/kg.</i>

CUSTOMER REMARKS : OBSERVATION ON COMPLETION OF WORK/TRIAL:
total start on 16th September, in JMR Bearing

CUSTOMER REMARKS : OBSERVATION WHILE IN PROGRESS:

FINAL REMARKS BY CUSTOMER: *Bearing oper on 9th Oct & total Production completed 8213 Ton, found bearing in good condition- satisfied the result*

Lubrilog Executive Signature & Date: *Anut*
Customer Signature, Seal & Date: *[Signature]*

Conclusion



- Customer happy with STARGREASE HV performance.
- STARGREASE HV performance similar to KYODO PALMAX RBG.
- Customer gets >4% cost savings over Palmax RBG.
- Annual Potential in this plant: 720 KG.





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Committed to responsible lubrication...