



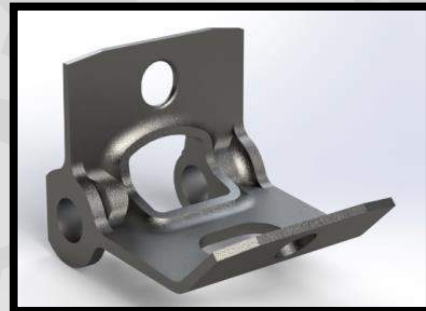
ARROW METALLIKS

Manufacturers of Alloy Steel Castings

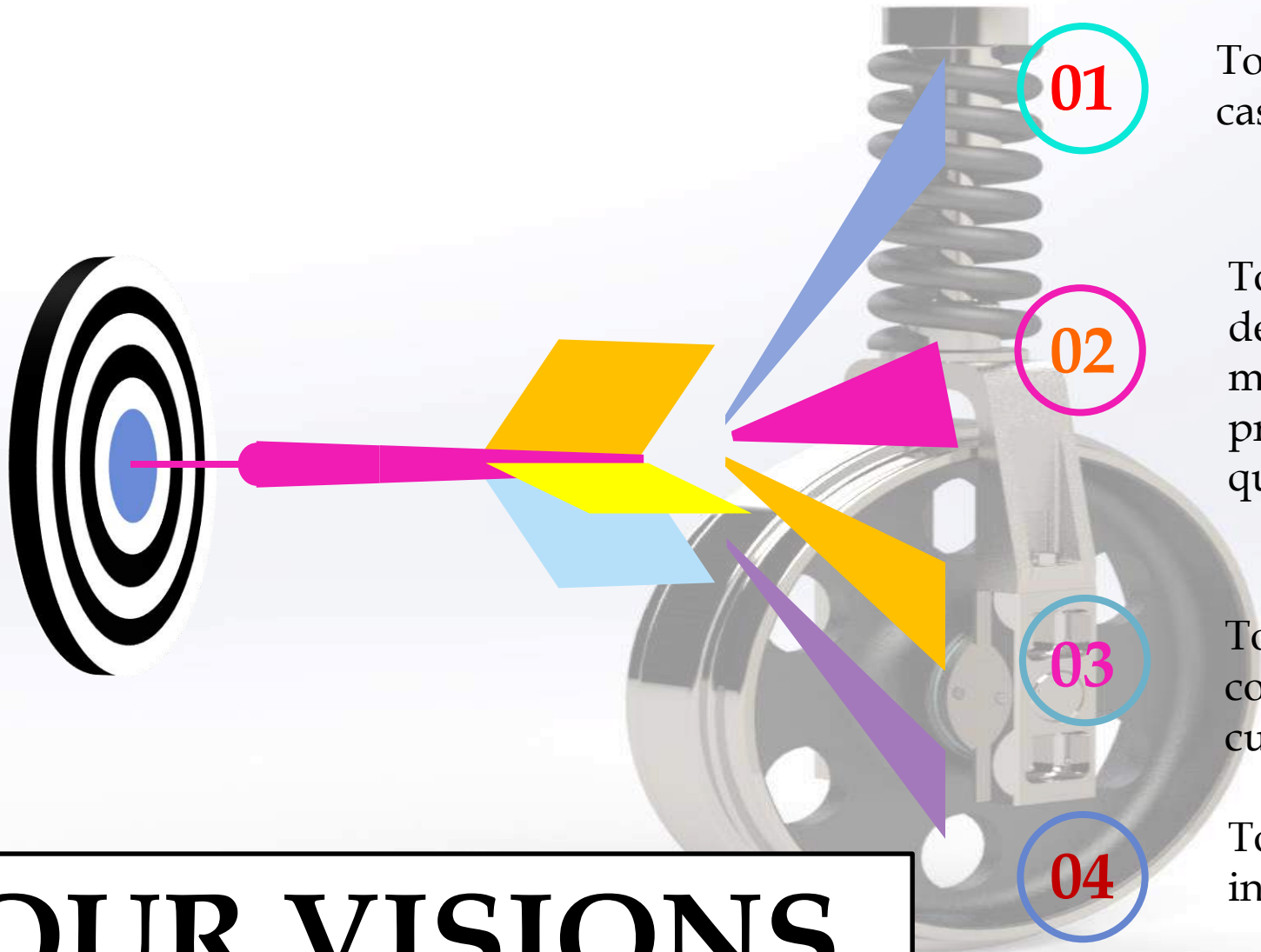
Manufacturers of Alloy Steel Castings



<https://goo.gl/maps/UGgrhnoc9aPY7LvMA>



OUR VISIONS



01

To be reputed Global provider of quality castings as per Global standards.

02

To adopt new technologies for product development so as keep pace with market needs and to develop quality processes to deliver product of consistent quality with reliability.

03

To cater quality services and provide complete satisfaction to our valued customers.

04

To expand business in domestic and international market.



01

Arrow Metalliks is an ISO-9001-2015 Certified Partnership Firm engaged in Manufacturing of Steel Castings and Machined assemblies comprising of Steel Castings.

02

Established in 2005, located in Kagal Five Star MIDC, Just At 20 Km distance from Kolhapur City. We possess world class infra-structure and are compliant to all necessary industry quality norms.

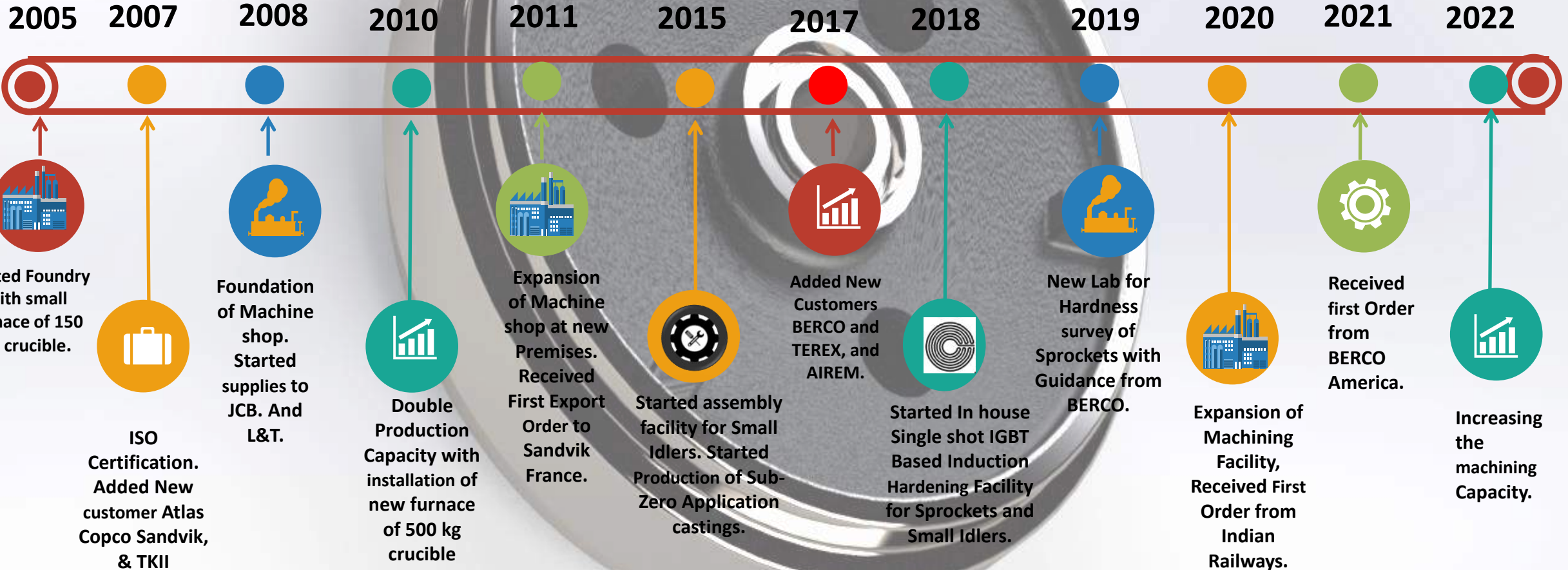
03

We are TIER-I suppliers for some of leading OEM in MINING & EARTHMOVING, ROAD CONSTRUCTION, and GENERAL ENGINEERING.

04

We produce only Steel castings in Low to Medium Carbon Steel and Low Alloy Steels.

Timeline Arrow Metalliks



Facilities

We produce castings in various Low Carbon and Medium Carbon Steel and also Low Alloy Steel Grades in IS, ASTM, EN, DIN Standards.

We have a Installed Capacity of 1500 MT good Casting Per Year. We have a 500 Kgs furnace with details as mentioned below. Our Specialty is Manufacturing of Undercarriage parts such as Sprockets, Idler, End Collars for Mining and Earthmoving Equipment's.

We also specialize in manufacturing of Hi-chromium Abrasion resistant Parts for Crushing Applications.



FURNACE

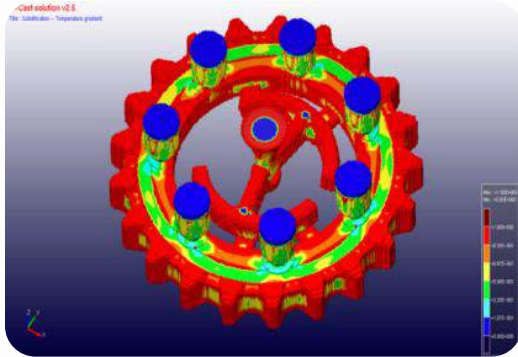
250kW Medium frequency coreless induction furnace with one control panel and 2 Nos of 500 kgs crucibles.

With Tap Out time of 70 Minutes, we have a production capacity of 4500 Heats per Year, which makes our Annual Good casting capacity of 1500 Tonnes considering two shifts only.

FACILITIES

DEVELOPMENT

Z-Cast Simulation Software to Aid process design.



MACHINING

CNC & VMC, Machining facility with all Measuring Instruments.



INDUCTION HARDENING

Special Purpose IGBT based precision controlled, 450 KW, Medium Frequency Single shot in house Induction hardening machine for Sprockets and Idlers.

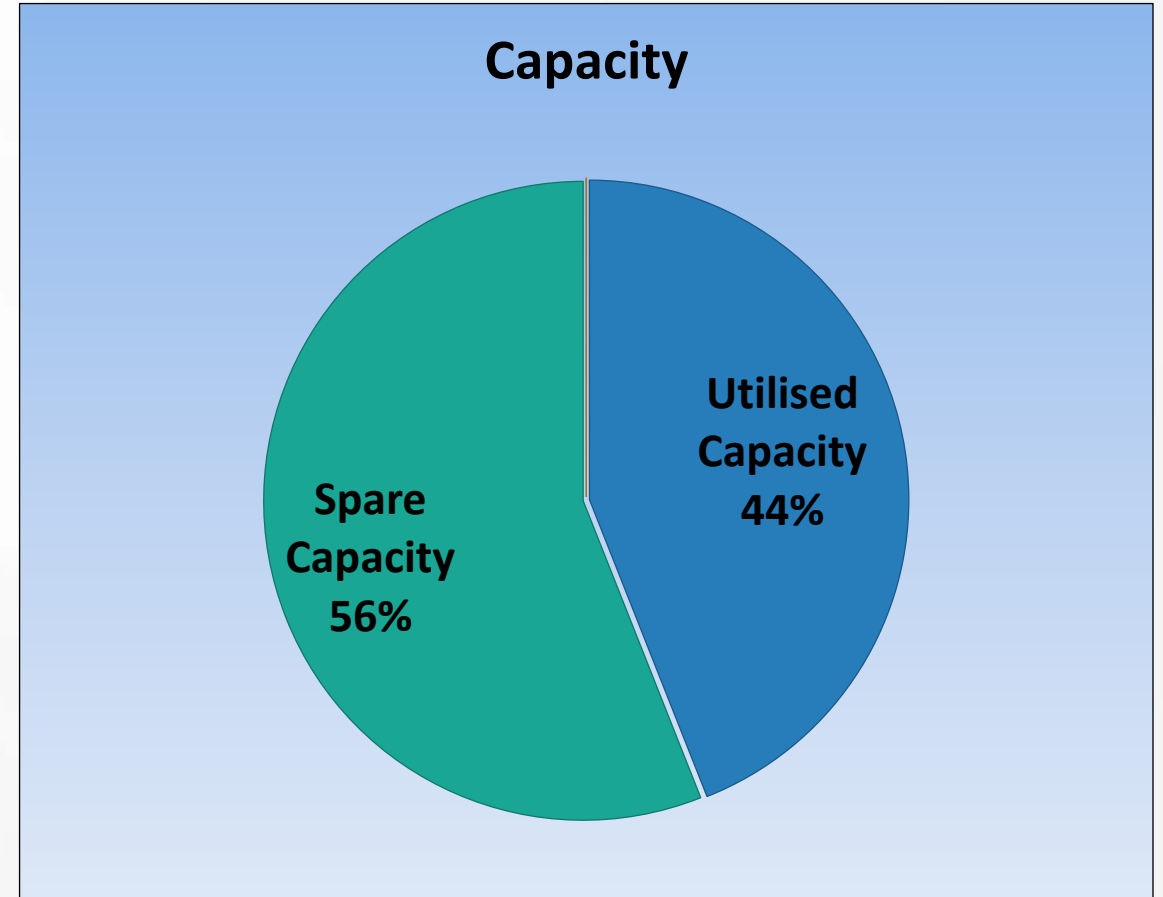
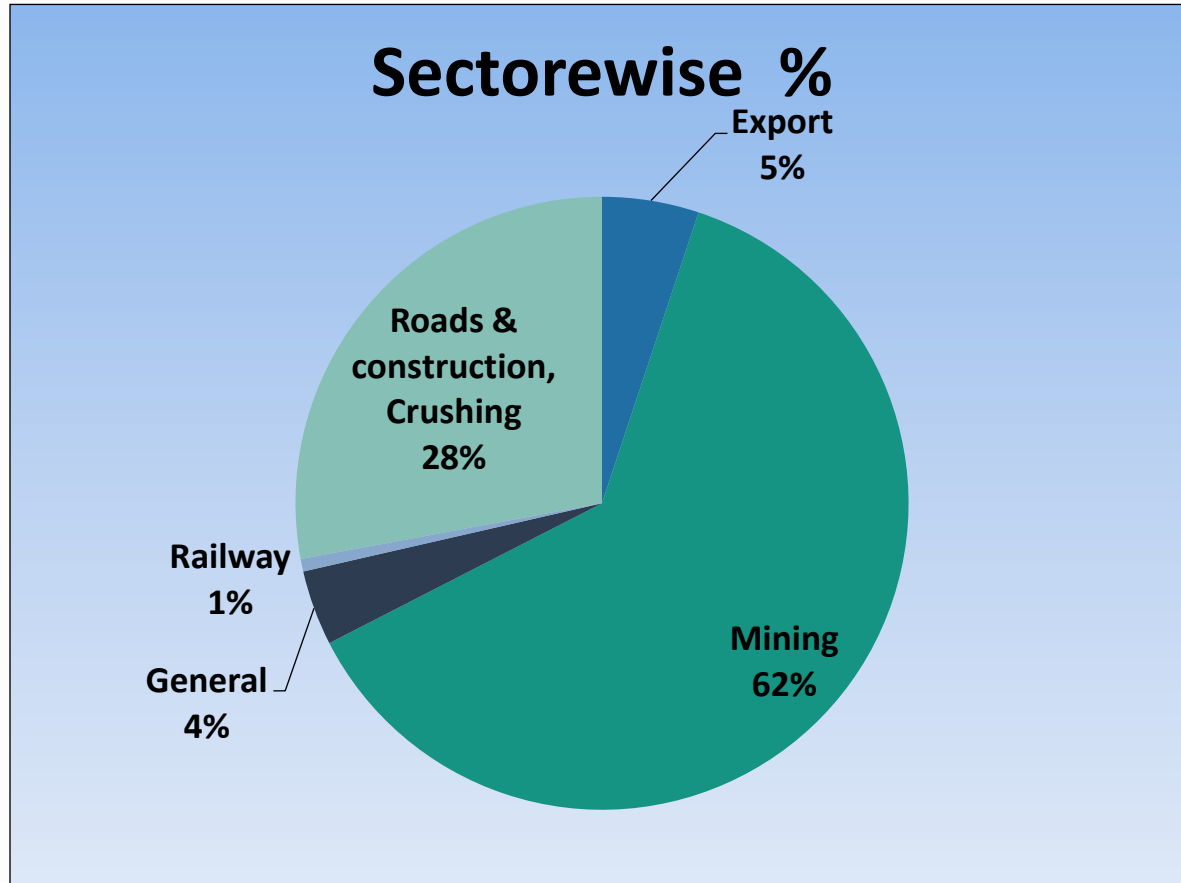


HEAT TREATMENT

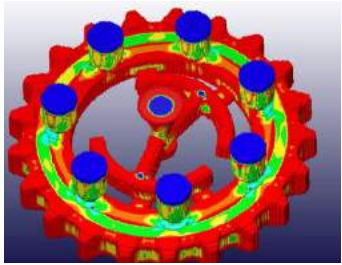
Heat Treatment Furnaces with Water Quenching Facility to accommodate castings of various dimension.



SECTORS -2021-22



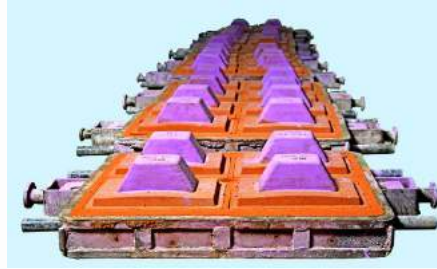
Simulation



Melting



Molding



Pouring



Fettling



Heat Treatment



Induction Hardening



Mechanical Testing



MPI



DP Testing



UT



Machining



Inspection



Assembly



Dispatch



Acceptance of First sample by PSW and Random inspection acceptance communication by customer.

Part Submission Warrant

Part Name: Sprocket Part Number: MU 3350

Qty: 10000

Part Base under No.: 4500052655 Weight: 7.50 kg

SUPPLIER MANUFACTURING INFORMATION

Supplier Name: Arrow Metallurgy Supplier code: 22200003

Street Address: Plot No A-21, Kagal Madanagale Five Star MIDC Kagal. Postal Code: 415206

City: Rahani Dist: Maharashtra

REASON FOR SUBMISSION

Initial Submission Change to Optional Construction or Material

Engineering Change Sub-supplier or Material Source Change

Tooling Transfer, Replacement, Refurbishment or JDM Change in Part Processing

Correction of Discrepancy Parts Produced at Additional Location

Other (specify):

REQUESTED SUBMISSION LEVEL (Check One)

Level 2 - Worst Quality Approval

Level 3 - Material Laboratory only (Functional, Physical, Quality Approval level, Drawings, Process flow chart, Process control plan, etc.)

Level 4 - Material Laboratory, Material Laboratory and Functional Tests, Quality Approval level, Drawings, Process flow chart, Process control plan, Special process control plan, Laboratory and Control plan, Special process control plan, Performance test certificate, etc.

Level 5 - Material Laboratory, Material Laboratory and Functional Tests, Quality Approval level, Drawings, Process flow chart, Process control plan, Special process control plan, Laboratory and Control plan, Special process control plan, Performance test certificate, etc.

Level 6 - Material Laboratory, Material Laboratory and Functional Tests, Quality Approval level, Drawings, Process flow chart, Process control plan, Special process control plan, Laboratory and Control plan, Special process control plan, Performance test certificate, etc.

SUBMISSION RESULTS

Results for: Dimensional Measurements Material and Functional Tests Appearance Check Detail of Package

These results meet all drawing and specification requirements: Yes No (If "No" evaluation required)

DECLARATION

I affirm that the material represented by this warrant and representative of our plant and have been made to the applicable technical drawings and specifications and that this special material is produced under regular production tooling with no special tooling other than the regular production process. I have signed any declaration form as a declaration below.

Supplier Name: Mr. Nilesh S. Patel Part No: MU 3350 Date: 31-09-2022

Supplier Authorized Signature: [Signature] Date: 31-09-2022

CUSTOMER USE ONLY

Part Approval: Approved Not Approved Other

Customer Name: Andrea Bersanetti Customer Signature: Andrea Bersanetti Date: 4/02/2022



REPORT DI LABORATORIO
LABORATORY INSPECTION REPORT

DENOMINAZIONE ITEM: SPROCKET **RICHIESTA N° DOCUMENT No.:** BQO 002/20

DISEGNO DRAWING: Similar to Berco CR7056 **DATA DATE:** 22/05/2020

EMESSO DA ISSUED BY: Centro Prove e Sviluppo Materiali / Research and Material Development centre
DQA Divisione Qualità e Affidabilità / Quality and Reliability Division CT-FT-EUR-PCOP

DATA COMPILAZIONE COMPLETED ON: 26/05/2020 **COMPILATO DA FILLED BY:** Marco Peverati **APPROVAZIONE APPROVAL:** E. Capetti A. Bianchi

INTRODUZIONE/ INTRODUCTION

A sprocket (Berco drawing SK0033A) has been sent to laboratory to test its properties. It's a sampling of the supplier YUHNE.

ESAMI EFFETTUATI/ PERFORMED TESTS

DESCRIZIONE TEST TEST DENOMINATION	NORMATIVA DI RIF. REF. STANDARD	EFFETTUATO PERFORMED	ESITO/ RESULT	
			OK	NOT OK
RAPPORTO FOTOGRAFICO/PHOTOGRAPHIC REPORT	-	X		
ANALISI CHIMICA/CHEMICAL ANALYSIS	UNI CEN/TR 10261:2008	X	X	
DUREZZE (HB)/HARDNESS (HB)	UNI EN ISO 6506-1:2013	X	X	
DUREZZE (HRC)/HARDNESS (HRC)	UNI EN ISO 6508-1:2006	X	X	
DUREZZE (HV)/HARDNESS (HV)	UNI EN ISO 6507-1:2006			
MICRODUREZZE/MICROHARDNESS	UNI EN ISO 6507-1:2006			
PROVA DI TRAZIONE/TENSILE TEST	UNI EN ISO 6892-1:2016			
PROVA DI RESILIENZA/IMPACT TEST	UNI EN ISO 148-1:2014			
PROVA DI RESILIENZA/IMPACT TEST	JIS Z 2202			
ATTACCO MACROGRAFICO (NITAL) MACROGRAPHIC INSPECTION (NITAL ETCHING)	UNI 3138:84			
ATTACCO MACROGRAFICO (HCI) MACROGRAPHIC INSPECTION (HCI ETCHING)	UNI 3138:84			
ESAME MICROSCOPICO/MICROSCOPIC ANALYSIS	UNI 3137:1963	X		
VALUTAZIONE GRANO AUSTENITICO/AUSTENITIC GRAIN SIZE	UNI EN ISO 643:2006	X		
VALUTAZIONE GRANO FERRITICO FERRITIC GRAIN SIZE	UNI EN ISO 643:2006			
ALTRO / OTHERS				

CONCLUSIONI/CONCLUSIONS

- Chemical Analysis: detected material is G33Mn4 in conformity with specification.
- Hardness (base material): in conformity with Berco specification.
- Case depth: in conformity with Berco specification.
- Microscopic analysis: surface decarburization in all samples.
- Under decarburized layer: stress relieved martensite and ferrite.
- Coarse austenitic grain size on tooth tip (5/6 ASTM) and fine on tooth base (10/11 ASTM). Normalized base material.


Proprietary Products (Sprockets) Field Test Validation Report & Customer Designed Part acceptance report by Customers own lab tests.

ARROW METALLIKS
WEAR INSPECTION REPORT FOR SPROCKET 431, W 2770
AT JCB INDIKA TELAGAHI PLANT FOR
FRONT FIT FOR JCB 330G/350G/360G/370G


Data Available at hand while inspection of Sprocket Teeth Wear at JCB Telagaan, 0833A, 8P, 1st on 01.10.2022.
a. Machine Number: 5209 0086 (For Machine Photos).
b. Machine Hour Reading: 1241 hrs.

a. Sprocket inspection is done without removing it from machine using Mechanical Templates of Size 1.1 to 0.2 and 0.3mm all over on 02-02 for check wear of Teeth Cavity. [Unit Name Templates as listed at 208 0086 Inspection].


b. After Teeth Inspection, checking will be done to check wear on Face.
c. Final Report for Damage at End of all Teeth from Outer 400mm, as well as about inspection of Bulging wear also from inside. Comparison of Endurance tested of New Sprocket Done JCB.
d. All Inspection carried out solely by below mentioned team of Arrow Metalliks and of JCB Engineering, ISE, & Quality Department.



PARAMETER		Unit	MEASURED DATA	ALLOWABLE
THICKNESS	A, B, C	mm	8.1, 8.1, 8.1	8.1, 8.1, 8.1
WEAR AT TYPICAL	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1
B. CENTER	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1
C. CENTER	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1



PARAMETER		Unit	MEASURED DATA	ALLOWABLE
THICKNESS	A, B, C	mm	8.1, 8.1, 8.1	8.1, 8.1, 8.1
WEAR AT TYPICAL	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1
B. CENTER	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1
C. CENTER	A, B, C	mm	0.1, 0.1, 0.1	0.1, 0.1, 0.1



CONCLUSION:
Even after 1241 hours, no major wear was observed in the teeth cavity as compared to 208 hours inspection. Teeth Engagement pattern was also good, and visually no damage was observed of any part of the Sprocket. Hence 0833A W 2770 S P 1 Teeth, which were in ready case to be achieved, provided machine is used and maintained by end user i.e. per JCB machine operating instructions, timely maintenance and using all original parts.


Signature:
The Arrow Metalliks: Mr. Ashish P. Shah (Plant) & Mr. Rajesh K. Mani
The JCB India: Mr. Anand K. Nayak B., Mr. G. Subash, Mr. G. Prasad (JCB Engineering Dept) & Mr. Prakash G. Gopal (JCB QIP) & Mr. Prasad (JCB Quality Dept)

Report Number: R2206003
Subject: RESOURCED COMPONENT
Supplier: Arrow Metalliks
Sample Type: PRIMARY
Circulation: Ryan.Brand, JCBT Accounts

JCB Transmissions
Wrexham Industrial Estate
Wrexham LL13 9UF
Tel: +44(0) 1978 666581/2
Fax: +44(0) 1978 661863

Part Description					
Item	Part No.	Issue	Identity Code	Qty.	Description
1	123/04273	2		1	CAST JAW PIVOT

Action: Sample complies to drawing requirements

Signed:  Date: 9-6-2022

Comments: Chemical composition complies to BS3100 A4 (5001/2011) specification.
Mechanical properties comply to BS3100 A4 (5001/2011) specification.
Casting is sound with no porosity observed.
Supplier certification is satisfactory with no deviations observed.

Brainstorming Sessions for Training, Development and Problem Solving.

ARROW METALLIKS

8-D-REPORT

Customer: TKIL - Pune

Part Name: Sac Coupler-2

Part No.: 3 M 0034, M00712, 05 Rev-A

Quantity Returned: 4

Re-worked at Customer: Yes

NC No. & Date: 31/05/2022



8-D-REPORT

Problem Description: Heavy shrinkage observed in 1 nos out of 4 nos supplied in March-2022. After finish machining.

Root Cause: Prima facie defect in heavy shrinkage. There are no castings in stock at this location. Emergency action mode is not required as customer is going to repair & use the casting.

Corrective Action: Design & Process Increased Collaborability of teams.

Customer: TKIL - Pune

Part Name: Sac Coupler-2

Part No.: 3 M 0034, M00712, 05 Rev-A

Quantity Returned: 4

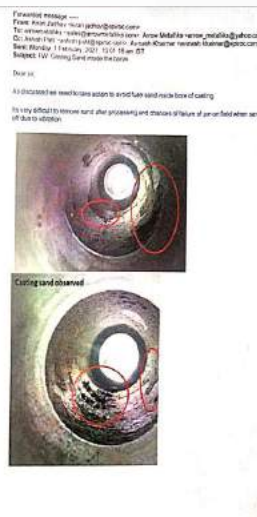
Re-worked at Customer: Yes

NC No. & Date: 31/05/2022

Problem Description: Heavy shrinkage observed in 1 nos out of 4 nos supplied in March-2022. After finish machining.

Root Cause: Prima facie defect in heavy shrinkage. There are no castings in stock at this location. Emergency action mode is not required as customer is going to repair & use the casting.

Corrective Action: Design & Process Increased Collaborability of teams.



ARROW METALLIKS

Returned Product Analysis Report

Report No: AM-DN-1 - Customer Complaint

Customer: TKIL - Pune

Date: 31/05/2022

Part Name: Sac Coupler-2

Part No.: 3 M 0034, M00712, 05 Rev-A

Quantity Returned: 4


Re-worked at Customer: Yes

NC No. & Date: 31/05/2022

Sr No.	Problem Description	Qty
1	Heavy shrinkage observed in 1 nos out of 4 nos supplied in March-2022. After finish machining.	-
2	Castings are supplied in prof machined condition at this location no UT probe can be placed & detection is not possible. Hence defect was missed. Also till date such defect was never detected. Castings are supplied since 2014.	-

Root Cause/ Why Analysis -

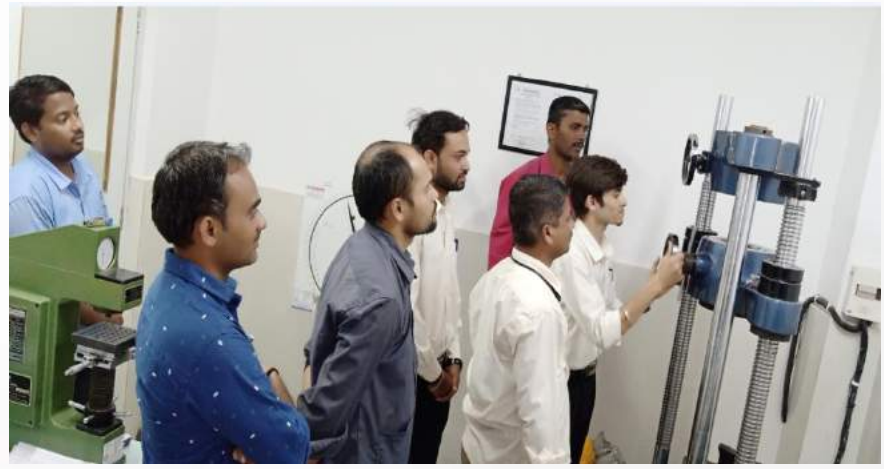
1	Prima facie defect in heavy shrinkage.
2	There are no castings in stock at this location.
3	Emergency action mode is not required as customer is going to repair & use the casting.
4	Fishbone Diagram-



ARROW METALLIKS

Checklist for Methoding of Ade foot casting 265-0035

Sr No.	Details	Remark
1	Deriving Underfoot?	Yes
2	Pattern Layout finalised?	Yes
3	Molding box size?	18324 (4t casting)
4	Type of Core?	NA
5	Will core fuse? Zircon?	NA
6	Will gas from core go into the metal?	NA
7	Gas removal from core?	NA
8	How should be core placed?	NA
9	Any chills required?	No
10	Are there chances of hot tears?	No
11	Measures to constraint hot tears?	No
12	Scab chases? Sand type?	NA
13	Chances of casting deformation?	No
14	Self or forced directional solidification?	Self Solidification
15	Did you locate hot spots?	Yes
16	Finalise methoding?	Yes
17	Top Bottom Centre Combined pouring?	Centre pouring
18	Chills Location?	Not required
19	Flux add?	Not required
20	How to feed hot spots?	Using aesthetic sleeves
21	Side or Top Rim? Why?	Side rim





Sprockets & idlers with induction hardening, finish machining & assemblies, Boom Casting, Since-2006.





Sprockets and Idlers for material handling equipments. Since-2008.



Sprockets with induction hardened & finish machined. Since-2018.



Extreme abrasion resistant high carbon, High Chromium part for VSI. Since-2016 .



Extreme abrasion resistant high carbon, High Chromium part for VSI. Since-2021.

ARROW METALLIKS

ADDRESS-A 21, KAGAL HATAKANANGALE FIVE
STAR MIDC,
KOLHAPUR.MAHARASHTRA INDIA. Pin-416236
Website-www.arrowmetalliks.com

Contact Details:-

Mr. Abhijeet P.Shah- Mob:+91-9890673830

_abhijeet@arrowmetalliks.com

Mr. Nilesh B. Patel- Mob:+91-9890709000

sales@arrowmetalliks.com





Manufacturers of Alloy Steel Castings

Manufacturers of Alloy Steel Castings

A photograph of two hands shaking in a firm grip, symbolizing a business agreement or partnership. The hands are wearing dark suit sleeves with white cuffs. The image is centered and has a dark, semi-transparent overlay.

THANK YOU