

3.5.1 - Revenue generated from consultancy and corporate training during the year (INR in lakhs)

			Revenue generated
Names of the	Name of the	Consulting/Sponsoring	(INR in
teacher-consultants	consultancy project	agency with contact details	lakhs)
1. Mr.Abhijit M.	Accura Tech Castings		
Mane	Pvt. Ltd	Metasis Lab ,Shiroli MIDC,	1000
2. Mr.Siddhant		Kolhapur	
A.Karnik	Tough Casting Pvt. Ltd.		2000
	Trio Enterpriese	4	2000
	Tulip Casting Pvt. Ltd		2500
	Turno Grind		2500
	Bhakti Industries		1300
	Bharat Auto Ind		2950
	Top Gear Transmission		2250
	Bhakti Industries		1500
	Accura Tech Castings		
	Pvt. Ltd		2000
	Ask Casting		8000
	Impel Founders Pvt. Ltd.		1500
	Dev Metalliks		1000
	Top Gear Transmission		2500
	India Engineers		500
	Dev Metalliks		4950
		Total	38450/-
	Consultanc	y Amount Distribution Total	38450/-
	To Department: 18148/-	GST 18%	6921/-
	To College: 27223/-	FINAL AMOUNT	45371/-

• List of consultants and revenue generated by them

Revenue ge	enerated from co	rporate training duri	ing the year	
Names of the teacher- consultants/corporate trainers	Title of the corporate training programme	Agency seeking training with contact details	Revenue generated (amount in rupees)	Number of trainees
Mr.Abhijit M. Mane Mr.Siddhant A.Karnik	Micro Hardness	Metasis Lab, Shiroli MIDC, Kolhapur	13500	3
Mr.Ubed N. Bagwan.	Salt Spray Testing	Mr.Manvendra S.Subhedar Mob.No. 9922437590	6000	3
Names of the teacher- consultants/corporate	Title of the corporate training	Agency seeking training with contact	Revenue generated (amount in	Number of
trainers	programme	details	rupees)	trainees
Mr.Abhijit M. Mane Mr.Siddhant A.Karnik	Micro Hardness	Metasis Lab, Shiroli MIDC, Kolhapur	13500/-	3
Mr.Ubed N. Bagwan.	Salt Spray Testing	Mr.Manvendra S.Subhedar	6000/-	3
		Mob.No. 9922437590 Corporate Training Total	19500/-	03

Dr. Shruti Joshi Coordinator - IQAC Vivekanand College, Kalbapur

Pour Dr. R. R. Kumbhar

PRINCIPAL Vivekanand College Kolhapur.

Sr. No.	Name of Company	Test Required	No. of samples	Amount
1	Accura Tech Castings Pvt. Ltd.	Micro Structural Analysis	2	1000
2	Tough Casting Pvt.	Micro Structural Analysis	1	500
2	Ltd.	Mirco Hardness	3	1500
3	Trio Enterprises	Micro Structural Analysis	1	500
5	Trio Enterpriese	Mirco Hardness	3	1500
		Micro Structural Analysis	1	500
4	Tulip Casting Pvt. Ltd	Rockwell Hardness	1	500
		Mirco Hardness	3	1500
5	Turno Grind	Micro Structural Analysis of Nodular Cast Iron	1	500
5	i umo Grind	Salt Spray Test	2	2000
C	Dhalti Industrias	Microstructural Analysis of Graphite in Cast Iron	2	1000
6	Bhakti Industries	C.P.C.	1	300
		Microstructural Analysis of Graphite in Cast Iron	1	500
7	Bharat Auto Ind.	Volume Fraction of phases	1	1450
		Salt Spray Test	1	1000
		G.F.N.	1	300
8	Top Gear Transmission.	Micro Structural Analysis of Nodular Cast Iron	1	500
		Volume Fraction of phases	1	1450
0		Brinell Hardness	2	1000
9	Bhakti Industries	Grain Size Measurement	1	500
10	Accura Tech Castings	Mirco Hardness	3	1500
10	Pvt. Ltd.	Micro structural Analysis of Graphite in Cast Iron	1	500

INDEX: Revenue generated from consultancy

	To College	: 27223/-	FINAL AMOUNT	45371/-
	To Departme	nt: 18148/-	GST 18%	6921/-
	Consultancy Amo	unt Distribution	TOTAL	38450/-
		Salt Spray Test	1	3000
16	Dev Metalliks	Volume Fraction of phases	1	1450
		Microstructural Analysis of Graphite in Cast Iron	1	500
15	India Engineers	Micro Structural Analysis	2	500
14	Top Gear Transmission	Micro Structural Analysis	5	2500
13	Dev Metalliks	Inclusion Rating of Steel	2	1000
12	Impel Founders Pvt. Ltd.	Inclusion Rating of Steel	3	1500
11	Ask Casting	Micro Structural Analysis of Nodular Cast Iron	1	500
11	Asla Costina	Mirco Hardness	15	7500

Dr. Shruti Joshi Coordinator - IQAC Vivekanand College,

Pou Dr. R. R. Kumbhar

PRINCIPAL Vivekanand College Kolhapur.





Chemical, Physical, Metallurgical Testing of Metals, Noise, Vibration, Surface Roughness, Salt Spray, PMI. Test, Lux Measurement

B-13, Opp. Kolhapur Axle Ltd., MIDC Shiroli, Kolhapur - 416122. Cell : +9922437590, 7721995959, Email : kolhapurmetasys@gmail.com, metasyslab@rediffmail.com, Website : www.metaltestinglab.net

To,

The Nodal Officer

Department of Foundry Technology,

Vivekanand College, Kolhapur (Autonomous)

Subject: To provide collaborated testing and consultancy services.

Respected Authority,

We have metallurgical testing and consultancy setup in MIDC Shiroli, Kolhapur. We have collaborated with your Foundry Technology department. We have requirement of metallurgical testing at your end.

As department of Foundry technology has established a testing setup which is very useful for industrial purpose, we are requesting you to provide necessary support regarding the same. We are attaching a list of samples and details of test requirements along with this letter.

Thanking you,

Yours Sincerely Director

Date: 05/10/2022

Metasis Lab

P.T.O. - Terms & Conditions

• Details of work required-

Sr. No.	Name of Company	Test Required	No. of samples
1	Accura Tech Castings Pvt. Ltd.	Micro Structural Analysis	02
2	Touch Costing But Itd	Micro Structural Analysis	01
2	Tough Casting Pvt. Ltd.	Mirco Hardness	03
2	mi p	Micro Structural Analysis	01
3	Trio Enterpriese	Mirco Hardness	03



Lab ID- CS001		Test Certificate N	NoVCKFT2	02101	Dat	te- 06/10/202
		Metasis Lab Shiroli M	IDC			
Custome	er Name	Accura Tech Castings	Pvt. Ltd.			
Date of Samp	ole Received	Date of Test Comple	tion		Sample Name	
05/10/	/2021	06/10/2021			Sample	
Challan Date	Challan No.	Test Method	Pa	rt No	Heat No	Grade
06/10/2021	FT001	ASTM-E-2567-16a ASTM-E-562:2011		-	-	SG-400/1
		ASTM-E-1245:2016 Test Re	sults			
Etchant- 4% Ni	tal			lition- In	nmersion-Etchin	g
			The state of the state	a aran h	THE X Y IN THE COLUMN COM	
1.5	Unetched				Etched	
	Unetched	Total Magnific	ation-100X		Etched	
Specimen Dimens			ation-100X		Etched	
Observation (Une	sion- Sai etched) Ve	Total Magnific nple Cut Piece rmicular Graphite is present	in the structur	e along wi	th regular Spheroi	
Observation (Uno Observation (Etc	sion- Sar etched) Ve shed) Fer	Total Magnific nple Cut Piece rmicular Graphite is present ritic matrix is observed wit	t in the structur h following per	e along wi	th regular Spheroi f Ferrite and Pearl	ite.
Observation (Uno Observation (Etc Graphi	sion-San etched) Ve shed) Fer ite Analysis (Un	Total Magnific nple Cut Piece rmicular Graphite is present ritic matrix is observed wit etched Area)	in the structur following per P	e along wi centage of hase Anal	th regular Spheroi f Ferrite and Pearl ysis (Etched Are :	ite. a)
Observation (Und Observation (Etc Graphi Frame Area (mm	sion- Sar etched) Ve thed) Fer ite Analysis (Un 1 ²) 0.9	Total Magnific mple Cut Piece rmicular Graphite is present ritic matrix is observed wit etched Area) 59 mm ²	in the structur h following per Pl Pearlite (%)	e along wi centage of hase Anal 24.70	th regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%)	ite. a)
Observation (Une Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sar etched) Ve shed) Fer ite Analysis (Un 1 ²) 0.9 819	Total Magnific mple Cut Piece rmicular Graphite is present ritic matrix is observed wit etched Area) 59 mm ² 6	in the structur following per P	e along wi centage of hase Anal	th regular Spheroi f Ferrite and Pearl ysis (Etched Are :	ite. a)
Observation (Une Observation (Etc Graphi Frame Area (mm Nodularity (%) Nodule Count/mr	sion- Sar etched) Ve shed) Fer ite Analysis (Un 1 ²) 0.9 819	Total Magnific mple Cut Piece rmicular Graphite is present ritic matrix is observed wit etched Area) 59 mm ² 6	in the structur h following per Pl Pearlite (%)	e along wi centage of hase Anal 24.70 75.30	th regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%)	ite. a) -



Lab ID- CS001		Test Certificate	No VCKF	202102	Dat	e- 06/10/20
		Metasis Lab Shiroli I	MIDC		1	
Custome	r Name	Accura Tech Casting	s Pvt. Ltd.			
Date of Samp	ole Received	Date of Test Compl	etion		Sample Name	
05/10/	2021	06/10/2021			Sample	
Challan Date	Challan No.	Test Method		Part No	Heat No	Grade
06/10/2021	FT001	ASTM-E-2567-16a		-	-	SG-400/1
		ASTM-E-562:2011				
		ASTM-E-1245:2016				
Etchant- 5% Ni	4-1	I est B	Results		Tel:	
Etchant- 5% N1	tai		Etening Co	nation- in	nmersion-Etchin	g
	Unetcher	d			Etched	
	Unetcher	d Total Magnif	ication-1002		Etched	
Specimen Dimen			ication-1002		Etched	
Specimen Dimen Observation (Un	sion- Sa	Total Magnif		K		idal Graphite
	sion- Sa etched) Vo	Total Magnif	ent in the struc	K ture along w	ith regular Spheroi	
Observation (Un Observation (Etc Graphi	sion- Sa etched) Vo thed) Fe ite Analysis (Un	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area)	ent in the struc	ture along w percentage o Phase Anal	ith regular Spheroi f Ferrite and Pearl ysis (Etched Are:	ite.
Observation (Un Observation (Etc Graphi Frame Area (mm	sion- Sa etched) Vo hed) Fe ite Analysis (Un 1 ²) 0.	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 259 mm ²	ent in the struc with following Pearlite (%)	K ture along w bercentage o Phase Anal 24.70	ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%)	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Va shed) Fe ite Analysis (Un 12) 12) 0.1 79 79	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc	ture along w percentage o Phase Anal	ith regular Spheroi f Ferrite and Pearl ysis (Etched Are:	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm	sion- Sa etched) Va shed) Fe ite Analysis (Un 12) 12) 0.1 79 79	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc with following Pearlite (%)	K ture along w bercentage o Phase Anal 24.70	ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%)	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Va shed) Fe ite Analysis (Un 12) 12) 0.1 79 79	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc with following Pearlite (%)	Curre along w bercentage o Phase Anal 24.70 75.30	ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%)	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Vol ite Analysis (Un Fe a ²) 0.1 79 79 m ² 21	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc with following Pearlite (%)	Curre along w bercentage o Phase Anal 24.70 75.30	ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%) Ledeburite (%)	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Vol ite Analysis (Un Fe a ²) 0.1 79 79 m ² 21	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc with following Pearlite (%)	K ture along w percentage o Phase Anal 24.70 75.30 For VC	ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%) Ledeburite (%)	ite. a)
Observation (Un Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Vol ite Analysis (Un Fe a ²) 0.1 79 79 m ² 21	Total Magnif mple Cut Piece ermicular Graphite is prese rritic matrix is observed w netched Area) 959 mm ²	ent in the struc ith following Pearlite (%) Ferrite (%)	ture along w percentage o Phase Anal 24.70 75.30 For V(ith regular Spheroi f Ferrite and Pearl ysis (Etched Area Cementite (%) Ledeburite (%) CK Foundry Te	a)





		Test Report- Micro Struct	ural Analysis		
Lab ID- CS00	2	Test Certificate No V	CKFT202103	Da	ate- 09/10/202
Custo	mer Name	Metasis Lab Shiroli MID	C, Kolhapur		
Custor	mer Name	Tough Casting Pvt. Ltd.			
Date of San	mple Received	Date of Test Completion		Sample Name	9
08/1	10/2021	09/10/2021	Tool Tech	Engg-B-26-B	oron Steel
Challan Date	Challan No.	Test Method	Heat Code	Qty.	Grade
09/10/2021	FT002	ASTM-E-1245:2016	-	-	B-26
		ASM-Handbook-Vol9			
		Test Details			
Etchant- 4% N	lital	Etchir	g Condition- Imm	ersion-Etchin	g
			44.942231.024		Sole Liste
DIS A PROPERTY	CAN DEL		ALC: NO.	NO CHANNEL	
	gion-Total Magnif	fication-100X	Core Region-Tota	I Magnificatio	
Specimen Dime	ension-	ication-100X Comple Cut Piece	Core Region-Total	Magnificatio	on-200X
	ension-	Sample Cut Piece In case region, Decarburizati	on was not observe	ed.	on-200X
Specimen Dime Type of Struct	ension- ure Observed	Sample Cut Piece	on was not observe	ed.	on-200X
Specimen Dimo Type of Struct	ension-	Sample Cut Piece In case region, Decarburizati	on was not observe Ferrito-Pearlitic str For VCk	ed. ructure. K Foundry Te	echnology



		Test Repo	ort- Mirco Ha	rdness		
Lab ID- CS002		Test Cert	ificate No VC	KFT202104	D	ate- 09/10/2022
		Metasis Lab	Shiroli MIDC,	Kolhapur		
Custom	er Name	Tough Casti	ng Pvt. Ltd.			
Date of Sam	ple Received	Date of Tes	t Completion	S	ample Name	e
08/10	0/2021	09/10)/2022		Steel Plate	
Challan Date	Challan No	. Test N	Aethod	Heat Code	Qty.	Grade
09/10/2022	FT002	ASTM	И-Е-92	-	-	B-26
			Fest Details			1
			Hardness			
	Plate No	Thickness	Vickers	Hardness HV	1 Kg	
	P 4259	5 mm		256 - 258		
	PA 5451	6 mm		265 - 267	2	
	PA 5455	6 mm		260 - 262		
1	fested By-	<u>````</u>		For VCk	Foundry T	echnology
ļ	Sharing			B.Vocut	Nodal Of	ficer focollege Uni fe, Kolhapur

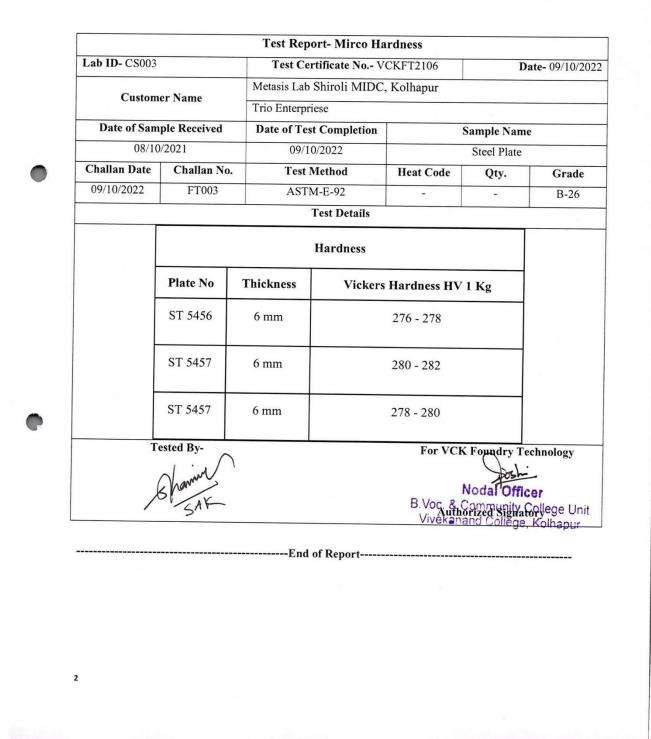
-----End of Report-----



		Test Report- Micro St	ructural Analysis	
Lab ID- CS003		Test Certificate No	o VCKFT2105	Date- 23/10/2022
-		Metasis Lab Shiroli MIDC		
Custome	r Name	Trio Enterpriese		
Date of Samp	ole Received	Date of Test Completion	Sample	Name
21/10/	2022	23/10/2022	Test Piece-D3	-Tool Steel
Challan Date	Challan No.	Test Method	Heat Code	Qty. Grade
23/10/2022	FT003	ASTM-E-1245:2016	-	- AISI-D-3
		ASTM-E-562:2011		
		Test Deta	ils	
Etchant- 4% Ni	ital	Et	ching Condition- Immersion	n-Etching
		Provide Land - Himme		
		Total Magnifica	cion-100X	
Specimen Dime	ension-	Total Magnification	cion-100X	-
Specimen Dime Type of Structu		Sample Cut Piece	ion-100X	erved in the matrix of
		Sample Cut Piece Un-dissolved, mediur		
	re Observed-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite	n coarse Carbides are obs with a small amount of Retai	ned Austenite.
Type of Structu	re Observed-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite	n coarse Carbides are obs with a small amount of Retai	ned Austenite.
Type of Structu	re Observed-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (% 2.20	ned Austenite.
Type of Structu	re Observed- -Case Region	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (%) 2.20 For VCK F	ned Austenite. (6) Carbides (%) 12.30 ourndry Technology
Type of Structu	re Observed- -Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (%) 2.20 For VCK For No	ned Austenite. 6) Carbides (%) 12.30 ormdry Technology dat Officer
Type of Structu	-Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (%) 2.20 For VCK For No	ned Austenite. 6) Carbides (%) 12.30 ormdry Technology dat Officer
Type of Structu	re Observed- -Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite 85.50	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (%) 2.20 For VCK For No	ned Austenite. (a) Carbides (%) 12.30 (a) Carbides (%) 12.30 (b) Carbides (%) 12.30 (c) Carbides (%) 12.30 (c) Carbides (%) 12.30 (c) Carbides (%) (c) Carbides (%
Type of Structu	re Observed- -Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite 85.50	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (% 2.20 For VCK For No B.Voc. & Cor Viver Haric	ned Austenite. 6) Carbides (%) 12.30 ormdry Technology dat Officer
Type of Structu	re Observed- -Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite 85.50	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (% 2.20 For VCK For No B.Voc. & Cor Viver Haric	ned Austenite. 6) Carbides (%) 12.30 ormdry Technology dat Officer
Type of Structu Area Fraction	re Observed- -Case Region Tested By-	Sample Cut Piece Un-dissolved, mediur Tempered Martensite Tempered Martensite 85.50	n coarse Carbides are obs with a small amount of Retai (%) Retained Austenite (% 2.20 For VCK For No B.Voc. & Cor Viver Haric	ned Austenite. 6) Carbides (%) 12.30 ormdry Technology dat Officer









INVOICE The Metasis Lab INVOICE NO. 2201 DATE - 30.10.2021 Shiroli MIDC DATE -T.C. No.- As per report Kolhapur-416122 CH. NO: DATE -P.O.NO:-DATE -Sr. No. Description Qty in Nos. Rate Amount Microstructure Analysis 1 4 500 2000 2 Microhardness Test 500 6 3000 Total 5000.00 CGST @ 9 % 450.00 SGST @ 9 % 450.00 GSTIN -**Total Amount** 5900 Amount In Words:- Five Thousand Nine Hundred Only Pan No.-For VCK Foundry Technology Authorised Signature Vivekanand College, Kolhapur



METASIS LAB

Chemical, Physical, Metallurgical Testing of Metals, Noise, Vibration, Surface Roughness, Salt Spray, PMI. Test, Lux Measurement

B-13, Opp. Kolhapur Axle Ltd., MIDC Shiroli, Kolhapur - 416122. Cell : +9922437590, 7721995959, Email : kolhapurmetasys@gmail.com, metasyslab@rediffmail.com, Website : www.metaltestinglab.net

Date: 10/11/2021

To,

Nodal Officer

Department of Foundry Technology,

Vivekanand College (Autonomous),

Kolhapur.

Subject: To provide collaborated testing and consultancy services.

Respected Authority,

We have metallurgical testing and consultancy setup in MIDC Shiroli, Kolhapur. We have collaborated with your Foundry Technology department. We have requirement of metallurgical testing at your end.

As department of Foundry technology has established a testing setup which is very useful for industrial purpose, we are requesting you to provide necessary support regarding the same. We are attaching a list of samples and details of test requirements along with this letter.

Thanking you,

bhodas Yours Sincerely, Director

Metasis Lab

P.T.O. - Terms & Conditions

Sr. No.	Name of Company	Test Required	No. of samples
		Micro Structural Analysis	01
1	Tulip Casting Pvt. Ltd	Rockwell Hardness	01
		Mirco Hardness	03
2	Turno Grind	Micro Structural Analysis of Nodular Cast Iron	01
2	Turno Grina	Salt Spray Test	02
3	Bhakti Industries	Microstructural Analysis of Graphite in Cast Iron	02
5	Diakti industries	C.P.C.	01
		Microstructural Analysis of Graphite in Cast Iron	01
4	Bharat Auto Ind.	Volume Fraction of phases	01
		Salt Spray Test	01

• Details of work required-



		est Report- Micro Structu			
Lab ID- CS004		Test Certificate NoVC	CKFT202107	L	Date- 11/11/202
<u> </u>	N	Metasis Lab Shiroli MIDC			
Custome	er Name	Tulip Casting Pvt. Ltd			
Date of Sam	ple Received	Date of Test Completion	S	ample Nan	ne
11/11	/2021	11/11/2021	Te	lcon Pin-X-	966
Challan Date	Challan No.	Test Method	Heat Code	Qty.	Grade
11/11/2021	FT004	ASTM-E-1245:2016		-	-
		ASTM-E-562:2011			
		Test Details	11		
Etchant- 4% Nit	al	Etching	g Condition- Imm	ersion-Etch	ing
			1 A. 4 25	V	
Case regio	on-Total Magnif	Fication-100X C	Case Region-Total	Magnifica	tion-500X
Case regio Specimen Dimen	1.00	Tication-100X C Sample Cut Piece	Case Region-Total	Magnifica	tion-500X
-	nsion-				
Specimen Dimer	nsion-	Sample Cut Piece	artensite is observe		
Specimen Dimer	nsion-	Sample Cut Piece In case region, Tempered Ma	artensite is observe Austenite.	ed some ame	ount of Carbide
Specimen Dimer	nsion- re Observed	Sample Cut Piece In case region, Tempered Ma and less than 10% Retained A Grain Boundary Oxidation wa	artensite is observe Austenite.	ed some am -15 μm) in t	ount of Carbide
Specimen Dimer Type of Structur	nsion- re Observed	Sample Cut Piece In case region, Tempered Ma and less than 10% Retained A Grain Boundary Oxidation wa	artensite is observe Austenite. as observed (Avg.	ed some am -15 μm) in t	ount of Carbido
Specimen Dimer Type of Structur Area Fraction-	nsion- re Observed	Sample Cut Piece In case region, Tempered Ma and less than 10% Retained A Grain Boundary Oxidation wa Tempered Martensite (%)	artensite is observe Austenite. as observed (Avg. Retained Austenite 5.20 For VC	ed some am -15 μm) in t e (%)	ount of Carbido he structure. Carbides (%) 1.85 Technology



Lab ID CC004		T IC IC IN NO	VET202100	n	
Lab ID- CS004		Test Certificate No VC	KF1202108	D	ate- 09/10/202
Custome	r Nama	Metasis Lab Shiroli MIDC,	Kolhapur		
Custome		Tulip Casting Pvt. Ltd			
Date of Samp	ple Received	Date of Test Completion	5	Sample Nam	e
08/10/	/2021	09/10/2022		Plate	
Challan Date	Challan No.	Test Method	Heat Code	Qty.	Grade
09/10/2022	FT004	ASTM-E-92	-	-	EN8
		Test Details			
		Hardness In HRC	C		
		Hardness In HRC 22.5 - 23.4	2		

LIST OF FACULTIES TRAINED



		Test Report- Mirco Ha	rdness			
Lab ID- CS004		Test Certificate No VC	KFT202109	D	ate- 09/10/2022	
C		Metasis Lab Shiroli MIDC,	Kolhapur			
Custom	er Name	Tulip Casting Pvt. Ltd				
Date of Sam	ple Received	Date of Test Completion	S	ample Nam	e	
08/10	/2021	09/10/2022		Shaft		
Challan Date	Challan No.	Test Method	Heat Code	Qty.	Grade	
09/10/2022	FT004	ASTM-E-92				
		Test Details			1	

Hardness					
Sr. No	Thickness	Vickers Hardness HV 1 Kg			
S4355	6 mm	280 - 282			
S4356	6 mm	278 - 280			
S4357	6 mm	241 - 243			

Tested By-

For VCK Foundry Technology

Authouseltsigificer

B.Voc. & Community College Unit-Vivekanand College, Kolhapur



Lab ID- CS005		Test Certificate NoVCKFT2110 Date- 19/11/202				
1		Metasis Lab Shir	roli MIDC			
Custome	r Name	Turno Grind				
Date of Samp	Date of Sample Received		mpletion	mpletion Sample Name		
14/11/	2021	19/11/20	21	1 AT-50 (18ID) Gear		
Challan Date	Challan No	. Test Meth	nod	od Part No H		Grade
19/11/2021	FT005	ASTM-E-256	7-16a		PE-122-11-A-19	SG-500/7
		ASTM-E-1245				
		Те	est Results			
Etchant- 4% Ni	tal		Etchi	ng Conditio	n- Immersion-Etchin	g
			0.00			
	Unetche			0 8 0 0 0 0 0	Etched	000
		Total Ma	gnification	-100X	Etched	
-	nsion- S	Total Ma ample Cut Piece				
Observation (U	nsion- Sinetched) R	Total Ma ample Cut Piece egular spheroidal Gr	raphite is pr	esent in the	structure.	
Observation (U Observation (E	nsion-Sinetched) R tched) P	Total Ma ample Cut Piece egular spheroidal Gr earlitic matrix is obs	raphite is pr	esent in the following pe	structure. ercentage of Ferrite ar	
Observation (U Observation (E Graphit	nsion- Si netched) R tched) P e Analysis (U	Total Ma ample Cut Piece egular spheroidal Gu earlitic matrix is obs netched Area)	raphite is pr	following pe Phase	structure. ercentage of Ferrite an Analysis (Etched Ar	
Observation (U Observation (E Graphit Frame Area (m	nsion- S. netched) R tched) P e Analysis (U m ²) 0.	Total Ma ample Cut Piece egular spheroidal Gu earlitic matrix is obs netched Area) 959 mm ²	raphite is pr erved with Pearli	esent in the following pe Phase A ite (%)	structure. ercentage of Ferrite an Analysis (Etched Ar 84.20	
Observation (U Observation (E Graphit Frame Area (m Nodularity (%)	nsion- S. netched) R tched) P e Analysis (U m ²) 0.	Total Ma ample Cut Piece egular spheroidal Gu earlitic matrix is obs netched Area) 959 mm ²	raphite is pr erved with Pearli Ferrit	esent in the following pe Phase ite (%)	structure. ercentage of Ferrite an Analysis (Etched Ar	
Specimen Dime Observation (U Observation (E Graphit Frame Area (m Nodularity (%) Nodule Count/m	nsion- S. netched) R tched) P e Analysis (U m ²) 0.	Total Ma ample Cut Piece egular spheroidal Gu earlitic matrix is obs netched Area) 959 mm ²	raphite is pr erved with Pearli Ferrit	esent in the following pe Phase a ite (%) te (%) ide (%)	structure. ercentage of Ferrite an Analysis (Etched Ar 84.20	rea)





Lab ID- CS005			Test Certi	ficate No	VCKFT211	l Dat	te- 19/11	/202
			Metasis Lab Shi	iroli MIDC				
	Custome	r Name	Turno Grind					
Date	e of Sample Received		Date of Test Co	Completion Sample Name				
	14/11/	2021	19/11/20)21	1 M 12 x 160 Stud , Zing Coatir			
Chall	an Date	Challan No.				Quan	tity	
19/1	1/2021	FT005	ASTM-E-250			PE-122-11-A-25	2	
-			ASTM-E-124	est Results				
				y Corrosi				
	Salt Sp	ray Solution-	-	pH		- 6.82 (6.5- 7.5)		
	Temp	-	35 [°] C	RH		- 99 %		
	Duratio	on - 1	00 Hrs.	Fog Coll	ection	- 1.63 ml / Hour		
				Result				
	Upto 24	4 Hrs			No White	rust observed		
	Upto 48	8 Hrs			No White	rust observed		
	Upto 72	2 Hrs			No White	rust observed		
	Upto 96	6 Hrs			No White	rust observed		
	Upto 10				No White	rust observed		
		Tested By-			Fo	or VCK Foundry Te	chnology	y
	(hannel				J.L.		
	X	AK				Nodal Off	icor	
		5/			Β.	Authorized Signato		e Un
					1	Vivekanand Colleg	e, Kolha	apur
	Je	Tested By-			B.	Nocial Off Authorized Signato Voc. & Community Vivekanand Colleg	icer College	





Lab ID- CS006		Test Certificate No	VCKFT2112	I	Date23/11/202		
Custome	u Nama	Metasis Lab Shiroli MIDC					
Custome	r Name	Bhakti Industries					
Date of Samp	le Received	Date of Test Completion	ate of Test Completion Sample Name				
22/11/2	2021	23/11/2021			2		
Challan Date	Challan No.	Test Method	Heat No	Qty.	Grade		
23/11/2021	FT006	ASTM-E-1245:2016	PE-122-11-A-25	2	45C8		
		IS-4748:2009	PE-122-11-A-26				
		Test Detai	ils				
Etchant- 4% Ni	ital	Etcl	ning Condition- Imme	ersion-Etching	;		
		Total Magnificat	ion-100X				
Specimen Dime	ension-	Total Magnificati	ion-100X				
Specimen Dime ASTM Grain S		Sample Cut Piece	ion-100X				
ASTM Grain S	ize No	Sample Cut Piece 8.0-8.5		erved			
ASTM Grain S	ize No	Sample Cut Piece 8.0-8.5 Equiaxed-Ferrito-Po	earlitic-structure is obs				
ASTM Grain S Type of Structu	ize No 1re Observed-	Sample Cut Piece 8.0-8.5 Equiaxed-Ferrito-Pe Decarburization is r	earlitic-structure is obs	nple.	r Phases (%)		
ASTM Grain S	ize No 1re Observed-	Sample Cut Piece 8.0-8.5 Equiaxed-Ferrito-Po	earlitic-structure is obs	nple.	r Phases (%) Nil		



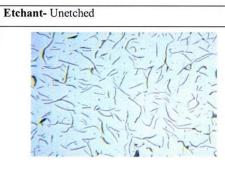


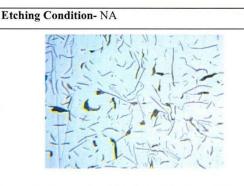
			Test Rep	ort- C.	P.C.		
	Lab ID- CS006		Test Certific	ate No.	- VCKFT2113]	Date 23/11/202
			Metasis Lab Shiroli MIDC				
	Customer	Name	Bhakti Industrie	5			
Ī	Date of Sampl	e Received	Date of Te	est		Sample Name	•
				on		C.P.C.	
	22/11/2	021	23/11/202	.1			
	Challan Date	Challan No.	Test Meth	od	Heat No	Qty.	Grade
	23/11/2021	FT006	ASTM-E-1245	:2016	-	-	-
			IS-4748:20	09			
			Test	Details			
			Test	Result	S		
	A) % of Fixed	Carbon :	97.2 %	B)	V. M. Content :		1.8 %
	C) Ash Co	ntent :	1.0 %				
	Tested	By- MM SAK			B.Voc.	Nodal Of Morized Signa	gical Services
			End of Repo	rt	Vivek		ge, Kolhapur





	Test Repo	ort- Microstructural Analy	sis of Graphit	e in Cast Iron		
Lab ID- CS009		Test Certificate NoVCKFT14 Date- 29/11/20				
		Metasis Lab Shiroli MIDC	I			
Custome	r Name	Bharat Auto Ind.				
Date of Samp	le Received	Date of Test Completion		Sample Name		
26/11/	2021	29/11/2021		Escort Bearing Ca	p	
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade	
29/11/2021	FT007	IS-7754:2018 ASTM-E-562:2011	FG 260			
		Test Detail	s			





Total Magnification-100X

Predominantly Form I-Distribution A type of Graphite flakes are observed along with some amount of Form I-Distribution B type.

ASTM Class Sample-1 3-5 Average Graphite type distribution Type A(%) Type B(%) Type C(%) Type D(%) Type E(%) Average 90 to 92 8 to 10 Tested By-For VCK Foundry Technology B.Voc. & Community College Ur Vivekanand College, Kolhapur

LIST OF FACULTIES TRAINED

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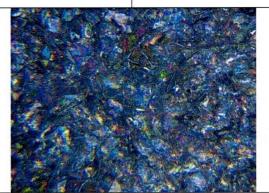




		Test Report- Volume Fr	action of ph	ases		
Lab ID- CS009	n in the second	Test Certificate No VCKFT15 Date- 29/11/20				
		Metasis Lab Shiroli MIDC				
Custome	r Name	Bharat Auto Ind.				
Date of Samp	le Received	Date of Test Completion		Sample Nam	e	
26/11/	021	29/11/2021		Escort Bearing	Cap	
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade	
29/11/2021	FT007	ASTM-E-1245:2016	FG 260			
		Test Detai	ls			

Etchant- 4% Nital

Etching Condition- Immersion-Etching



Total Magnification-100X

Pearlitic matrix is observed with following percentage of Ferrite and Pearlite.

Ternary Phosphorus Eutectic is observed in Pearlitic matrix with following percentages.

Sample-1	Frame Area(mm)	Pearlite (%)	Ferrite (%)	Steadite (%)
Average	0.936	98.60	1.40	
Tested By-			For VCK Foundry	Technology
1 int			\cap	
Sharry			Jush	-
SNI		-	Authorized Sig	
	End of Rep	ortB	Voc. & Communi	ty College U:

Vivekanand College, Kolhapur



		Test Repo	rt- Salt Sp	oray Test		
Lab ID- CS00	9	Test Cer	tificate No	- VCKFT16	D	ate- 29/11/202
Customer Name		Metasis Lab Shi	iroli MIDC			
		Bharat Auto In	ıd.			
Date of San	ple Received	ceived Date of Test Completion Sample Name				
26/1	1/2021	29/11/20	021	M 12 :	x 160 Impeller, Zin	ng Coating
Challan Date	Challan No.	Test Met	hod	Part No	Heat No	Quantity
29/11/2021	FT007	ASTM-E-25			-	1
		ASTM-E-124				
			est Results			
		Salt Spra	y Corrosi	on Test		
Salt S	pray Solution-		pH		- 6.82 (6.5- 7.5)	
Temp	- :	35° C	RH		- 99 %	
Dura	tion - 1	100 Hrs.	Fog Coll	ection -	1.63 ml / Hour	
			Result			
Upto	24 Hrs			No White	rust observed	
Upto	48 Hrs			No White	rust observed	
Upto	72 Hrs			No White	rust observed	
Upto	96 Hrs			No White	rust observed	
Upto	100 Hrs			No White	rust observed	
	Tested By-			Fo	r VCK Foundry 7	echnology
Shammen				B.Voc	Authorized Signa & Community C ekanand College	er onege Unit

Jr. College Recog. No. H.S. Jr. College Code No. 23-09- Jr. College U.Dise No. 2734	002 1301006 विवेकानंद २१३०, ई,	"ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण शिक्षणमहर्षी डॉ. वापूजी र श्री स्वामी विवेकानंद शिक्षण संस्थ काराबाई पार्क, कोल्हापूर, ता. करवीर, जि. कोल शिवाजी विद्यापीठ, कोल्हापूर संलग्नीत नॅक मानांकन : 'A' (सी.जी.पी.ए. ३.२४) ॉलेज उईथ पोटेन्शियल फॉर एक्सलन्स, यु.जी.सी., स्टार कॉलेज – डी.बी.टी. – भारत सरकार आय.एस.ओ. ९००१:२०१५	सालुंखे चे पूर (स्वायत्त) हापूर - ४१६ ००३	Estd. : June 1964 स्वायन) कोल्हापूर
Ph. : 0231-2658612, 265	8840 Fax : 0231-2658840 Re	esi. : 0231-2653962 Website : www.viv	vekanandcollege.org E-mail : inf	o@vivekanandcollege.org
संस्थापक डॉ. बापूजी साळुंखे D. Lit.	अध्यक्ष मा. आमदार चंद्रकांत दादा पार्ट ।	कार्याध्यक्ष टील प्राचार्य अभयकुमार साळुंखे MLA M.A.	संचिव प्राचार्या सौ. शुभांगी गावडे M.Sc., B.Ed.	प्राचार्य डॉ. आर. आर. कुंभार M.Sc. M.Phil. Ph.D.
जावक क्रमांक व्हि.सी.के. /			दिनांक :	

		INVOICE		
The Met	asis Lab	INVOICE NO.	2202	DATE - 30.11.2021
Shiroli N	1IDC	T.C. No As per 1	report	DATE -
Kolhapu	r-416122	CH. NO:		DATE -
		P.O.NO:-		DATE -
Sr. No.	Description	Qty in Nos.	Rate	Amount
1	Microstructure Analysis	5	500	2500
2	Microhardness Test	3	500	1500
3	Rockwell Hardness	1	500	500
4	Salt Spray Test Hrs	300	10	3000
5	CPC	1	300	300
6	Volume Fraction	1	1450	1450
		Total		9250.00
		CGST @ 9 %		832.50
		SGST @ 9 %		832.50
GSTIN -	27APEPS8440R3ZX	Total Amount		10915
Amount Pan No		ndred Fifteen Only r VCK Foundry Technolo Hotal Officer		





Chemical, Physical, Metallurgical Testing of Metals, Noise, Vibration, Surface Roughness, Salt Spray, PMI. Test, Lux Measurement

B-13, Opp. Kolhapur Axle Ltd., MIDC Shiroli, Kolhapur - 416122. Cell : +9922437590, 7721995959, Email : kolhapurmetasys@gmail.com, metasyslab@rediffmail.com, Website : www.metaltestinglab.net

Date: 02/12/2021

To,

The Nodal Officer

Department of Foundry Technology,

Vivekanand College, Kolhapur (Autonomous)

Subject: To provide collaborated testing and consultancy services.

Respected Authority,

We have metallurgical testing and consultancy setup in MIDC Shiroli, Kolhapur. We have collaborated with your Foundry Technology department. We have requirement of metallurgical testing at your end.

As department of Foundry technology has established a testing setup which is very useful for industrial purpose, we are requesting you to provide necessary support regarding the same. We are attaching a list of samples and details of test requirements along with this letter.

Thanking you,

Yours Sincerely selard irector

Metasis Lab

P.T.O. - Terms & Conditions

Sr. No.	Name of Company	Test Required	No. of samples
		G.F.N.	01
1	Top Gear Transmission.	Micro Structural Analysis of Nodular Cast Iron	01
		Volume Fraction of phases	01
2		Brinell Hardness	02
2	Bhakti Industries	Grain Size Measurement	01
		Mirco Hardness	03
3	Accura Tech Castings Pvt. Ltd.	Micro structural Analysis of Graphite in Cast Iron	01

• Details of work required-

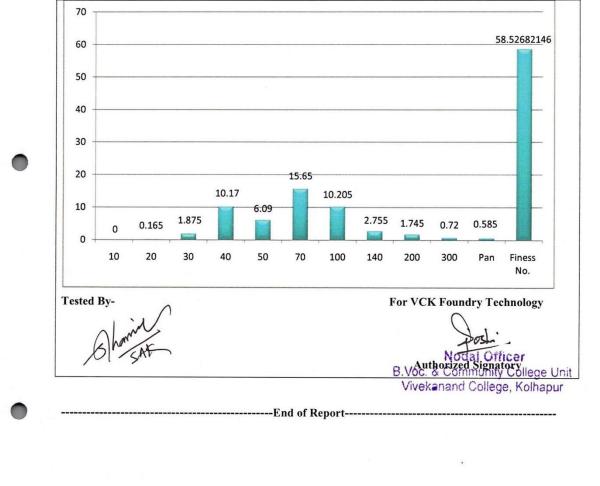




		Test Report-	G.F.N.		
Lab ID- CS001	3	Test Certificate N	oVCKFT2117	D	ate- 04/12/202
		Metasis Lab Shiroli MID	С		
Custome	r Name	Top Gear Transmission	1		
Date of Samp	le Received	Date of Test Completio	n	Sample Name	9
02/12/	2021	04/12/2021		Return Sand	
Challan Date	Challan No.	Test Method	Part No	Heat No	Quantity
04/12/2021	FT008	ASTM-E-2567-16a ASTM-E-1245:2016		-	
		Test Resu	lts		
		Test Resu	ilts		
A) Total C	lay Content :	11.3 %	B) Active	Clay Content :	7.8 %
		3.5 %	D) Volati	e Matter Conte	ent: 3.6 %
C) Dead Cl	ay Content :	5.5 70	D) Volati	le Matter Conte	art. 5.0 70





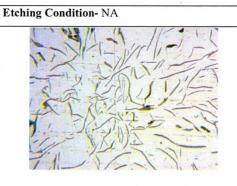




	Test Repo	rt- Microstructural Analysi	s of Graphite	in Cast Iron		
Lab ID- CS0013		Test Certificate No VCKFT2118 Date- 04/12/202				
		Metasis Lab Shiroli MIDC				
Custome	r Name	Top Gear Transmission				
Date of Samp	le Received	Date of Test Completion Sample Name				
02/12/	2021	04/12/2021		Cover for Oil		
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade	
04/12/2021	FT008	IS-7754:2018 ASTM-E-562:2011	59/774	19A11C		
		Test Details				

Etchant- Unetched







Fotal	Magni	fication	-100X
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Sample-1			ASTM	Class	
Average			2-5	5	
Graphite type distribution	Type A(%)	Type B(%)	Type C(%)	Type D(%)	Type E(%)
Average	92 to 94	6 to 8			-
Tested By-			For	VCK Foundr	y Technology
abarnet				\bigcirc	the .

Vivekanand College, Kolhapur



Lab ID- CS0013		Test Certificate N	o VCKFT2119		Date- 04/12/202
		Metasis Lab Shiroli MID	C		
Custome	er Name	Top Gear Transmission			
Date of Sam	ole Received	Date of Test Completion	n	Sample Name	
02/12/	/2021	04/12/2021		Cover for Oil	
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade
04/12/2021	FT008	ASTM-E-1245:2016 ASTM-E-562:2011	59/774	19A11C	
2 ×		Test Det			
Etchant- 4% Nit	al	Etc	hing Condition- In	nmersion-Etching	
		Total Magnifica	tion-100X		
Observation- Pe	arlitic matrix is o	Total Magnificate		nd Pearlite.	
	arlitic matrix is o			nd Pearlite. Ferrite (%)	Steadite (%)
San		bserved with following per	centage of Ferrite ar		Steadite (%)
San Av	nple-1	bserved with following per Frame Area(mm)	centage of Ferrite ar Pearlite (%) 98.90	Ferrite (%)	Steadite (%) 'echnology
San Av	nple-1 erage	bserved with following per Frame Area(mm)	centage of Ferrite ar Pearlite (%) 98.90 For	Ferrite (%) 1.10 VCK Foundry T	 rechnology
San Av	nple-1 erage Tested By-	bserved with following per Frame Area(mm)	centage of Ferrite ar Pearlite (%) 98.90 For rt	Ferrite (%) 1.10 VCK Foundry T Authorized Si DC. & Community	 echnology -Ĵ gnafory /College Unit
San Av	nple-1 erage Tested By-	bserved with following per Frame Area(mm) 0.936	centage of Ferrite ar Pearlite (%) 98.90 For rt	Ferrite (%) 1.10 VCK Foundry T	 echnology -Ĵ gnafory /College Unit
San Av	nple-1 erage Tested By-	bserved with following per Frame Area(mm) 0.936	centage of Ferrite ar Pearlite (%) 98.90 For rt	Ferrite (%) 1.10 VCK Foundry T Authorized Si DC. & Community	 echnology -Ĵ lenatory /College Unit
San Av	nple-1 erage Tested By-	bserved with following per Frame Area(mm) 0.936	centage of Ferrite ar Pearlite (%) 98.90 For rt	Ferrite (%) 1.10 VCK Foundry T Authorized Si DC. & Community	 echnology -Ĵ lenatory /College Unit





	Test Report- Brinell Ha	rdness		
	Test Certificate NoVO	CKFT2120	D	ate- 10/12/202
	Metasis Lab Shiroli MIDC			
er Name	Bhakti Industries			
ple Received	Date of Test Completion	5	Sample Nam	e
/2021	10/12/2021		Plate	
Challan No.	Test Method	Heat Code	Qty.	Grade
FT009	ASTM-E-92	-	-	FG-200
	Test Details			
	Hardness In BHN	N		
Part No	(250 Kg x	5 mm Ball)		
11 E 376	196	- 198		
3 M 27	187	- 189		
ested By- A		For VCH	K Foundry T	echnology
SAT		B Voc Auth	Abst.	Ribry
	/2021 Challan No. FT009 Part No 11 E 376 3 M 27	Test Certificate NoVoer NameMetasis Lab Shiroli MIDCBhakti Industriesple ReceivedDate of Test Completion/202110/12/2021Challan No.Test MethodFT009ASTM-E-92Test DetailsHardness In BHNPart No(250 Kg x11 E 3761963 M 27187	Br Name Bhakti Industries Bhakti Industries Bhakti Industries Ple Received Date of Test Completion S (2021) 10/12/2021 10/12/2021 Challan No. Test Method Heat Code FT009 ASTM-E-92 - Test Details Hardness In BHN Part No (250 Kg x 5 mm Ball) 11 E 376 196 - 198 3 M 27 187 - 189 For VCH Marring For VCH	Test Certificate NoVCKFT2120 D Metasis Lab Shiroli MIDC Bhakti Industries Bhakti Industries Bhakti Industries ple Received Date of Test Completion Sample Name /2021 10/12/2021 Plate Challan No. Test Method Heat Code Qty. FT009 ASTM-E-92 - - Test Details Hardness In BHN Part No (250 Kg x 5 mm Ball) 11 E 376 196 - 198 3 M 27 187 - 189 For VCK Foundry T Authorized Signa





]]	Cest Certific	ate No VCk	FT2121		Date-	10/12/202
		Meta	asis Lab Shir	oli MIDC				
Custome	er Name		kti Industries					
Date of Sam	nle Received		te of Test C		1	Sampl	e Name	
		Da		-	4			. 1
07/12/			10/12/20			X600-GTV		
Challan Date	Challan N	lo.	Test Met	hod	Heat No.	Heat L	ot No.	Grade
10/12/2021	FT009		ASTM-E-11	2:2013	B-10923	S-6 P-6		ASTM A216 WCC
Qualifying Heat Nos.	B9948	B9925	B9917	B9925,B9951	B9916	B9951	B-9951	B9925
Qualifying Part	8X600-GTV	12X300-	4X600-GTV	20X150-	2X600-PV	20X150-	12X300-	12X300-
	Body	Plug	Body	Lower Cap	Body	Upper Cap	Upper Cap	Lower Cap
			Test	Details				
Etchant- 4% Nital	1			Etching Co	ndition- Im	nersion-Etc	hing	
		K						
		など法				-		
Santing Di			20072	hification-100	DX			
Specimen Dimens			lica-B-Side		8 0			
Type of Grain De	termined-	Equ	lica-B-Side iaxed-Ferrito	-Pearlitic-Ty	8 0	, No Widma	anstatten Fe	errite.
Type of Grain De Grain Size Analys	termined- sis Method-	Equ Mar	lica-B-Side iaxed-Ferrito nual Compari	-Pearlitic-Ty	8 0	, No Widma	anstatten Fo	errite.
Type of Grain De	termined- sis Method- e No	Equ	lica-B-Side iaxed-Ferrito nual Compari	-Pearlitic-Ty	pe-A Grains			
Type of Grain De Grain Size Analys	termined- sis Method-	Equ Mar	lica-B-Side iaxed-Ferrito nual Compari	-Pearlitic-Ty	pe-A Grains	, No Widma or VCK Fo		
Type of Grain De Grain Size Analys	termined- sis Method- e No	Equ Mar	lica-B-Side iaxed-Ferrito nual Compari	-Pearlitic-Ty	pe-A Grains F	or VCK Fo (Author	bundry Teo	chnology fory
Type of Grain De Grain Size Analys	termined- sis Method- e No	Equ Mar 8.0-	lica-B-Side iaxed-Ferrito nual Compari	-Pearlitic-Ty son Method	pe-A Grains F 	or VCK Fo	oundry Teo	chnology fory



			ort- Mirco Ha			
Lab ID- CS001			rtificate NoV(CKFT2122	Da	ate- 18/12/202
Custor	ner Name		Shiroli MIDC			
Custon	lei maine	Accura Tech	n Castings Pvt. L	.td.		
Date of San	ple Received	Date of Tes	st Completion	5	Sample Name	e
15/12	2/2021	18/1	2/2021		R.A. Support	
Challan Date	Challan No	. Test	Method	Heat Code	Qty.	Grade
18/12/2021	FT010	AST	М-Е-92	-	-	
			Test Details			
			Hardness			
	Sr. No	Thickness	Vickers	Hardness HV	1 Kg	
	H 1722	5 mm		256 - 258		
	H 1723	6 mm		265 - 267		
	Н 1724	6 mm		260 - 262		
	Tested By-			For VCI	K Foundry T	echnology
	1 mil				Ο.	
L	man				Josh	-
	SIT			Auth	lorized Signa	eqry
				Vivekana	ommunity C ind College,	Kolhapur
		Enc				





Lab ID- CS001		Test Certificat	e No VCKFT2	2123	Date	e- 18/12/202
		Metasis Lab Shiroli I	MIDC			
Custome	r Name	Accura Tech Casting	s Pvt. Ltd.			
Date of Samp	le Received	Date of Test Compl			Sample Name	
17/12/2		18/12/2021			R.A. Support	
Challan Date	Challan No.	Test Method	Pa	rt No	Heat No	Grade
18/12/2021	FT010	ASTM-E-2567-16a ASTM-E-562:2011 ASTM-E-1245:2016		42513	264	
		Test F	Results			
Etchant- 4% Nit	tal		Etching Cond	l ition- In	nmersion-Etching	g
1.5			0090			
	Unetchec				Etched	
		Total Magnif	fication-100X		Etched	
	sion- Sa	Total Magnit			Etched	
Observation (Une	sion- Sau etched) Re	Total Magnit mple Cut Piece gular spheroidal Graphite	is present in the	structure.		
Observation (Une Observation (Etc	sion- Sa etched) Re hed) Per	Total Magni mple Cut Piece gular spheroidal Graphite arlitic matrix is observed	is present in the with following pe	structure. rcentage (of Ferrite and Pear	
Observation (Une Observation (Etc Graphi	sion-Sau etched) Re hed) Per ite Analysis (Un	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed etched Area)	is present in the with following pe	structure. rcentage (nase Anal	of Ferrite and Pear	ı)
Observation (Une Observation (Etc Graphi Frame Area (mm	sion- Sa etched) Re hed) Pe: ite Analysis (Un ²) 0.9	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed etched Area) 159 mm ²	is present in the swith following pe Pl Pearlite (%)	structure. rcentage o nase Anal 61.30	of Ferrite and Pearlysis (Etched Area	u) -
Specimen Dimens Observation (Une Observation (Etc Graphi Frame Area (mm Nodularity (%) Nodule Count/mr	sion-Sai etched) Re hed) Per ite Analysis (Un 1 ²) 0.9 96	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed etched Area) ¹⁵⁹ mm ²	is present in the with following pe	structure. rcentage (nase Anal	of Ferrite and Pear	u) -
Observation (Und Observation (Etc Graphi Frame Area (mm Nodularity (%) Nodule Count/mr	sion-Sai etched) Re hed) Per ite Analysis (Un 1 ²) 0.9 96	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed etched Area) ¹⁵⁹ mm ²	is present in the swith following pe Pl Pearlite (%)	structure. rcentage o nase Anal 61.30 38.70	of Ferrite and Pearlysis (Etched Area	- -



INVOICE The Metasis Lab INVOICE NO. DATE - 31.12.2021 2203 Shiroli MIDC T.C. No.- As per report DATE -DATE -Kolhapur-416122 CH. NO: P.O.NO:-DATE -Description Qty in Nos. Sr. No. Rate Amount 1 Microstructure Analysis 2 500 1000 2 Microhardness Test 3 1500 500 Brinell Hardness (BHN) 1000 3 500 2 4 Grain Size Measurement 500 500 1 5 Volume Fraction 1450 1450 1 6 GFN 1 300 300 Total 5750.00 CGST @ 9 % 517.50 SGST @ 9 % 517.50 GSTIN -**Total Amount** 6785 Amount In Words:- Six Thousand Seven Hundred Eighty Five Only Pan No.-For VCK Foundry Technology Authorised Signature

Vivekanand College, Kolhapur





Chemical, Physical, Metallurgical Testing of Metals, Noise, Vibration, Surface Roughness, Salt Spray, PMI. Test, Lux Measurement

B-13, Opp. Kolhapur Axle Ltd., MIDC Shiroli, Kolhapur - 416122. Cell : +9922437590, 7721995959, Email : kolhapurmetasys@gmail.com, metasyslab@rediffmail.com, Website : www.metaltestinglab.net

Date: 04/01/2022

To,

The Nodal Officer

Department of Foundry Technology,

Vivekanand College, Kolhapur (Autonomous),

Subject: To provide collaborated testing and consultancy services.

Respected Authority,

We have metallurgical testing and consultancy setup in MIDC Shiroli, Kolhapur. We have collaborated with your Foundry Technology department. We have requirement of metallurgical testing at your end.

As department of Foundry technology has established a testing setup which is very useful for industrial purpose, we are requesting you to provide necessary support regarding the same. We are attaching a list of samples and details of test requirements along with this letter.

Thanking you,

adars Yours Sincerely, Director

Metasis Lab

P.T.O. - Terms & Conditions

• Details of work required-

Sr. No.	Name of Company	Test Required	No. of samples
1	Ask Casting	Mirco Hardness	15
		Micro Structural Analysis of Nodular Cast Iron	01
2	Impel Founders Pvt. Ltd.	Inclusion Rating of Steel	03
3	Dev Metalliks	Inclusion Rating of Steel	02



		Test Repor	t- Mirco Ha	rdness		
Lab ID- CS014		Test Certi	ificate NoVC	CKFT2124	Dat	e- 08/01/202
Custom	er Name	Metasis Lab Sl	hiroli MIDC,	Kolhapur		
Custom	er Name	Ask Casting				
Date of Sam	ple Received	Date of Test	Completion	S	ample Name	
04/01	/2022	15/01/2			Plate	
Challan Date	Challan No.				Qty.	Grade
08/01/2022	FT011			-	15	
		T	est Details			
			Hardness			
	Plate No	Thickness	Vicke	ers Hardness H	V 1 Kg	1
	P 4259	5 mm		256 - 258		
	PA 5451	6 mm		265 - 267		
	PA 5455	6 mm		260 - 262		
	PB 5455	6 mm		244 - 246		
	PA 5456	6 mm		251 - 253		
	PB 5456	6 mm		276 - 278		
	PA 5457	6 mm		280 - 282		
	PB 5457	6 mm		278 - 280		
	PB 5458	6 mm		241 - 243		
	PA 5458	6 mm		257 - 259		
	PA 5459	6 mm		266 - 268		
	PA 5460	6 mm		270 - 272		

			G	2		NDDV
		कोल्टायूर कोल्टायूर १९६४	2		CK FOU	NOLOGY
		PA 5603	6 mm	2	78 - 280	_
		PB 5604	6 mm	2	72 - 274	
		P 6223	4 mm	2	60 - 262	
		Tested By-			For VCK Foundry	Technology
	X	Shannak			Nodal B. Voutherizofhili	Unicer
			End of I	Report	Vivekanand Co	llege, Kolhapur
•						



Lab ID- CS014		Test Certificat	e No VCKFT	2124	Date	- 08/01/202
		Metasis Lab Shiroli	MIDC, Kolha	pur		
Custome	r Name	Ask Casting				
Date of Samp	le Received	Date of Test Comp	letion		Sample Name	
04/01/		08/01/2022			R.A. Support	
Challan Date	Challan No.	Test Method	Pa	rt No	Heat No	Grade
08/01/2022	FT011	ASTM-E-2567-16a ASTM-E-562:2011 ASTM-E-1245:2016		42513	256	
		Test F	Results	_		
Etchant- 4% Ni	tal		Etching Cond	lition- In	mersion-Etching	
					The State of the S	
	Unetche	1			Etched	
	Unetche	A.0	fication-100X		Etched	
Specimen Dimens		A.0	fication-100X		Etched	
Specimen Dimens Observation (Uno	sion- Sa	Total Magni			Etched	
	sion-Sa etched) Ro	Total Magni mple Cut Piece	is present in the	structure.		ite.
Observation (Uno Observation (Etc	sion- Sa etched) Rd hed) Pe te Analysis (Un	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed netched Area)	is present in the with following pe	structure.		
Observation (Und Observation (Etc Graphi Frame Area (mm	sion- Sa etched) Ro hed) Po te Analysis (Un	Total Magni mple Cut Piece gular spheroidal Graphite arlitic matrix is observed	is present in the with following pe Pl Pearlite (%)	structure.	of Ferrite and Pearl ysis (Etched Area Cementite (%)	
Observation (Une Observation (Etc Graphi Frame Area (mm Nodularity (%)	sion- Sa etched) Ro hed) Pe te Analysis (Un ²) 0.: 94	Total Magnit mple Cut Piece egular spheroidal Graphite arlitic matrix is observed netched Area) 259 mm ²	is present in the with following pe Pl	structure. crcentage on the structure of	of Ferrite and Pearl ysis (Etched Area)
Observation (Und Observation (Etc Graphi Frame Area (mm	sion- Sa etched) Ro hed) Pe te Analysis (Un ²) 0.: 94	Total Magnit mple Cut Piece gular spheroidal Graphite arlitic matrix is observed hetched Area) 259 mm ²	is present in the with following pe Pl Pearlite (%)	structure. rcentage o nase Anal 54.40 45.60	of Ferrite and Pearl ysis (Etched Area Cementite (%))





Lab ID- CS024			Test C	ertificate	NoVCKF	T2126		Date	- 18/01/20
		M	etasis Lab	Shiroli MI	DC		_		
Custom	er Name	In	npel Found	lers Pvt. Lt	d.				
Date of Sam	ple Received		Date of Te	est Comple	etion		Sample	Name	
12/01	/2022		18/0	01/2022		ShifterFinger-GB60-Smith & Founders (Inv. No557, Date-12/01/2019)			
Challan Date	Challan No).	Test	Method	I	Batch Code	Qt		Grade
18/01/2022	FT012	-	IS-4163:2	2004-Re20	017	-	3		16Mn5Cr4
				Test De	etails				
Etchant- N. A.				1	Etching C	Condition- N	I. A.		
•									
		· · ·					8		
				al Magnifi	cation-100	x			
Specimen Dime			ut Piece					\ \ 	
Specimen Dime Inclusion Ratin	g	A T	ut Piece ype	ВТ	уре	СТу			Туре
	g	A T Thin	ut Piece ype Thick	B T Thin	ype Thick	C Ty Thin	Thick	Thin	Thick
	g	A T Thin 0.0	ut Piece ype	ВТ	уре	C Ty Thin 0.5	Thick 0.0	Thin 1.0	Thick
-	g	A T Thin 0.0	ut Piece ype Thick	B T Thin	ype Thick	C Ty Thin 0.5 F	Thick 0.0 or VCK F	Thin	Thick 1.0 echnology





Lab ID- CS018								
		Test	Certificate	NoVCKI	FT2127		Date	- 22/01/20
Creation	News	Metasis La	b Shiroli M	IDC				
Customer	Name	Dev Metall	iks	8				
Date of Samp	le Received	Date of T	est Compl	letion		Sample	Name	
20/01/2	2022	22	22/01/2022		Rocker Arm-LH-Smith & Founders			
					(Inv. No654, Date-12/01/2019)			
Challan Date	Challan No.		st Method		Batch Code	Qt		Grade
22/01/2022	FT013	IS-4163:	:2004-Re2			2		45C8
			Test D					
Etchant- N. A.				Etching (Condition- N	. A.		
1 and							-	
				1				
		-	. D-					
		2		-				
· · ·		· · ·			· · ·	•		· •
1					1			
1000								1
					•			
				1		1 .		
		То	tal Magnif	ication-100)X			· · · ·
Specimen Dimens		ole Cut Piece)X			- 174
Specimen Dimens		ole Cut Piece A Type	В	Туре	СТу			Гуре
140	Thi	A Type	B Thin	Type Thick	C Ty Thin	Thick	Thin	Thick
14D	Thi 0.0	A Type in Thick	В	Туре	C Ty Thin 0.5	Thick 0.5	Thin 1.0	Thick 1.0
140	Thi	A Type	B Thin	Type Thick	C Ty Thin 0.5	Thick 0.5	Thin	Thick 1.0
Inclusion Rating	Thi 0.0 Tested By-	A Type	B Thin	Type Thick	C Ty Thin 0.5	Thick 0.5	Thin 1.0 oundry Te	Thick 1.0
Inclusion Rating	Thi 0.0 Tested By-	A Type	B Thin	Type Thick	C Ty Thin 0.5	Thick 0.5	Thin 1.0	Thick 1.0
Inclusion Rating	Thi 0.0 Tested By-	A Type	B Thin	Type Thick	C Ty Thin 0.5 Fe	Thick 0.5 or VCK F	Thin 1.0 oundry Te	Thick 1.0 chnology
Inclusion Rating	Tested By- Shamm	A Type	B Thin 0.5	Type Thick 1.0	C Ty Thin 0.5 Fe	Thick 0.5 or VCK F	Thin 1.0 oundry Te	Thick 1.0 chnology



		INVOICE			
The Met	asis Lab	INVOICE NO.	2204	DATE - 29.01.2022	
Shiroli M	11DC	T.C. No As per	T.C. No As per report		
Kolhapu	r-416122	CH. NO:		DATE -	
		P.O.NO:-		DATE -	
Sr. No.	Description	Qty in Nos.	Rate	Amount	
1	Microstructure Analysis	1	500	500	
2	Microhardness Test	15	500	7500	
3	Inclusion Rating of Steel	5	500	2500	
		Total	2	10500.00	
		CGST @ 9 %		945.00	
		SGST @ 9 %		945.00	
GSTIN -		Total Amount		12390	
Amount	In Words:- Twelve Thousand Thr	ee Hundred Ninety Only			
Pan No	Fe	or VCK Foundry Technolo	рgy		
		Nodal Unicer			

Vivekanand College, Kolhapur





Chemical, Physical, Metallurgical Testing of Metals, Noise, Vibration, Surface Roughness, Salt Spray, PMI. Test, Lux Measurement

B-13, Opp. Kolhapur Axle Ltd., MIDC Shiroli, Kolhapur - 416122. Cell : +9922437590, 7721995959, Email : kolhapurmetasys@gmail.com, metasyslab@rediffmail.com, Website : www.metaltestinglab.net

Date: 04/03/2022

To,

The Nodal Officer

Department of Foundry Technology,

Vivekanand College, Kolhapur (Autonomous)

Subject: To provide collaborated testing and consultancy services.

Respected Authority,

We have metallurgical testing and consultancy setup in MIDC Shiroli, Kolhapur. We have collaborated with your Foundry Technology department. We have requirement of metallurgical testing at your end.

As department of Foundry technology has established a testing setup which is very useful for industrial purpose, we are requesting you to provide necessary support regarding the same. We are attaching a list of samples and details of test requirements along with this letter.

Thanking you,

Leglard Yours Sincerely, Director

Metasis Lab

P.T.O. - Terms & Conditions

Sr. No.	Name of Company	Test Required	No. of samples
1	Top Gear Transmission	Micro Structural Analysis	05
2	India Engineers	Micro Structural Analysis	02
		Microstructural Analysis of Graphite in Cast Iron	01
3	Dev Metalliks	Volume Fraction of phases	01
		Salt Spray Test	01

• Details of work required-

1



Lab ID- CS013		Test Certificate	e NoV	CKFT2128		Date- 10/03/202
		Metasis Lab Shiroli	MIDC			
Customer N	Name	Top Gear Transmiss	ion			
Date of Sample	Received	Date of Test Comp	oletion	5	Sample Na	me
08/03/202	22	10/03/2022		Te	lcon Pin-T	-102
Challan Date C	Challan No.	Test Method	l	Heat Code	Qty.	Grade
10/03/2022	FT014	ASTM-E-1245:20	016	-	5	-
		ASTM-E-562:20	11			
		Test De	etails			
Etchant- 4% Nital		1	Etching	Condition- Imm	ersion-Etcl	ning
Case region-T	Total Magnif	ication-100X	Cr	ase Region-Total	Magnifica	ttion-500X
in the second seco		ication-100X Sample Cut Piece	Ca	ase Region-Total	Magnifica	ntion-500X
Specimen Dimension	n-					
Specimen Dimension	n-	Sample Cut Piece	red Mar	tensite is observe		
Specimen Dimension	n-	Sample Cut Piece In case region, Temper and less than 10% Reta Grain Boundary Oxida	ered Mar ained Au ation was	tensite is observe ustenite.	ed some am	ount of Carbide
Specimen Dimension Type of Structure O	n- Dbserved	Sample Cut Piece In case region, Temper and less than 10% Reta	ered Mar ained Au ation wa	tensite is observe ustenite.	ed some am 20 μm) in t	ount of Carbide
Specimen Dimension Type of Structure O	n- Dbserved	Sample Cut Piece In case region, Temper and less than 10% Reta Grain Boundary Oxida	ered Mar ained Au ation wa	tensite is observe ustenite. s observed (Avg	ed some am 20 μm) in t	ount of Carbide
Case region-T Specimen Dimension Type of Structure O Area Fraction-Cas Tester	n- Dbserved se Region	Sample Cut Piece In case region, Temper and less than 10% Reta Grain Boundary Oxida Tempered Martensite (ered Mar ained Au ation wa	rtensite is observe ustenite. s observed (Avg etained Austenite 7.10	d some am 20 μm) in t : (%)	tount of Carbide the structure. Carbides (%)
Specimen Dimension Type of Structure O Area Fraction-Cas	n- Dbserved se Region	Sample Cut Piece In case region, Temper and less than 10% Reta Grain Boundary Oxida Tempered Martensite (ered Mar ained Au ation wa	tensite is observe ustenite. s observed (Avg etained Austenite 7.10 For VCF	d some am 20 μm) in t (%) K Foundry	the structure. Carbides (%) 2.30 Technology





Lab ID- CS011		Test Certificate No	VCKFT2129]	Date- 10/03/202	
		Metasis Lab Shiroli MIDO	2		() - () - () - () - () - () - () - () -	
Customer	Name	India Engineers				
Date of Sample	e Received	Date of Test Completion		Sample Name	e	
08/03/20	022	10/03/2022	Shaft	Shaft B-C-Range-R-138533		
Challan Date	Challan No.	Test Method	Batch Code	Qty.	Grade	
10/03/2022	FT015	ASTM-E-1245:2016	A1 U-19			
		ASTM-E-562:2011				
		Test Details	11			
Etchant- 4% Nital		Etchi	ng Condition- Im	mersion-Etchin	ng	
				S. Contraction		
	Near Surface		From 1.5	5mm to 2.5mm	n	
	Near Surface	Total Magnification-		5mm to 2.5mm	n	
Specimen Dimension		Total Magnification- mple Cut Section		5mm to 2.5mm	n	
	n- Sa		100X			
Type of Structure O	n- Sa Dbserved- Fir	mple Cut Section	100X served near surface	with 1.25 % Re	etained Austenite	
Specimen Dimension Type of Structure O (Case Region) 5% ITP Depth-	n- Sai Dbserved- Fir Ca	mple Cut Section Tempered Martensite is ob-	100X served near surface tructure. Decarburiza	with 1.25 % Re ation was not ob:	etained Austenite served.	

Page 1 of 2



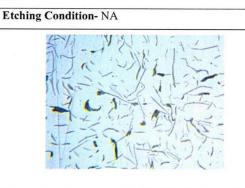
Lab ID- CS011		Test Certific	ate No V	CKFT2130	Da	ate- 10/03/202
		Metasis Lab Shire	oli MIDC			
Custome	er Name	India Engineers				
Date of Samp	ole Received	Date of Test Con	mpletion	S	ample Name	
08/03/	2022	10/03/202	22	Shaft B-C-Range-R-138533		
Challan Date	Challan No.	Test Meth	Test Method Batch		Qty. Grade	
10/03/2022	FT015	ASTM-E-1245	:2016	A1 U-19		
		ASTM-E-562:	2011			
		Test	Details	1		1
Etchant- 4% Nital	1		Etching	Condition- Imme	rsion-Etching	5
	國際 公開 南非 他国际 在这	新行的100°C,为此"中于为产于"的"				S C L
F	rom 2.5 to 3.5mr	n		Core	e area	
Tota	al Magnification-10	00X			e area fication-100X	
Tota Specimen Dimens	al Magnification-10 ion-		ion			
Tota Specimen Dimens	al Magnification-10 ion-	00X		Total Magni		
Tota Specimen Dimens 50% Martensitic I	al Magnification-10 ion- Depth	00X Sample Cut Sect 50% Martensitic	area is obse	Total Magni	fication-100X	
Tota	al Magnification-10 ion- Depth	00X Sample Cut Sect 50% Martensitic	area is obse ows Bandee	Total Magni erved at 2.80mm. d-Ferrito-Pearlitic	fication-100X	

Page 2 of 2



Lab ID- CS018		Test Certificate NoVC	KFT2131		Date- 22/03/202	
		Metasis Lab Shiroli MIDC				
Custome	r Name	Dev Metalliks				
Date of Samp	ole Received	Date of Test Completion		Sample Name		
16/03/	2022	22/03/2022		Escort Bearing Ca	p	
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade	
22/03/2022				5	FG 260	

Etchant- Unetched



Total Magnification-100X

Predominantly Form I-Distribution A type of Graphite flakes are observed along with some amount of Form I-Distribution B type.

Sample-1	ASTM Class 3-5				
Average					
Graphite type distribution	Type A(%)	Type B(%)	Type C(%)	Type D(%)	Type E(%
Average	90 to 92	8 to 10	-	-	-

Tested By-

For VCK Foundry Technology

B.Voc. & Community College Unit

Vivekanand College, Kolhapur

LIST OF FACULTIES TRAINED





Lab ID- CS018		Test Certificate No.	VCKFT2132		Date- 22/03/20	
Customer Name		Metasis Lab Shiroli MIDC			Date- 22/03/20	
		Dev Metalliks				
Data affa	la Dess'1		•			
Date of Sample Received 16/03/2022		Date of Test Complet	ion	Sample Name		
		22/03/2022		Escort Bearing Cap		
Challan Date	Challan No.	Test Method	Part No	Heat No	Grade	
22/03/2022	FT016	ASTM-E-1245:2016			FG 260	
		Test I	Details			
Etchant- 4% Nit	al		Etching Condition	n- Immersion-Etch	ing	
		10 30				
		Total Magnif	Ferrite and Pearlite			
		-	Ferrite and Pearlite			
	rus Eutectic is ol	following percentage of 1	Ferrite and Pearlite		Steadite (%	
Fernary Phosphor	rus Eutectic is ol e-1	following percentage of a poserved in Pearlitic matri	Ferrite and Pearlite x with following p	ercentages.	Steadite (%	
Ternary Phosphor Sampl Avera	rus Eutectic is ol e-1	following percentage of 1 oserved in Pearlitic matri Frame Area(mm)	Ferrite and Pearlite x with following p Pearlite (%) 98.60	ercentages. Ferrite (%)	Steadite (%	
Ternary Phosphor Sampl Avera	rus Eutectic is ol e-1 ge ed By-	following percentage of 1 oserved in Pearlitic matri Frame Area(mm) 0.936	Ferrite and Pearlite x with following p Pearlite (%) 98.60	ercentages. Ferrite (%) 1.40 For VCK Foundry Nodal	Technology	
Ternary Phosphor Sampl Avera	rus Eutectic is ol e-1 ge ed By-	following percentage of 1 oserved in Pearlitic matri Frame Area(mm) 0.936	Ferrite and Pearlite x with following p Pearlite (%) 98.60	ercentages. Ferrite (%) 1.40 For VCK Foundry Nodal	Technology	
Ternary Phosphor Sampl Avera	rus Eutectic is ol e-1 ge ed By-	following percentage of 1 oserved in Pearlitic matri Frame Area(mm)	Ferrite and Pearlite x with following p Pearlite (%) 98.60	ercentages. Ferrite (%) 1.40 For VCK Foundry Nodal	Technology	





		Test Repo	ort- Salt Sp	ray Test			
Lab ID- CS01				ificate No VCKFT2133 Date- 22/03/20			
Customer Name		Metasis Lab Shiroli MIDC					
Custon	ier Name	Dev Metalliks					
Date of San	te of Sample Received Date of Test Completion Sample Name				,		
16/0	16/03/2022 22/03/			M 12 x 160 Impeller, Zing Coating			
Challan Date	n Date Challan No. Test Me		thod	Part No	Heat No	Quan	tity
22/03/2022	FT016	ASTM-E-2567-16a ASTM-E-1245:2016			-	2	
		T	est Results				
		Salt Spra	ay Corrosio	on Test			
Salt S	pray Solution-	5 % NaCl	pH	-	6.82 (6.5- 7.5)		
Temp	Temp - 35 [°] C		RH	-	99 %		
Duration - 100 Hrs.		Fog Coll	ection -	1.63 ml / Hour			
			Result		1		
Upto 2	24 Hrs		-	No White r	ust observed		
Upto 4	Upto 48 Hrs Upto 72 Hrs Upto 96 Hrs		No White rust observed				
Upto 7			No White rust observed No White rust observed				
Upto 9							
Upto 1	Upto 100 Hrs			No White rust observed			
Upto 1	Upto 150 Hrs			No White rust observed			
	Tested By-			For	VCK Foundry T	echnology	•
6	Sharing				Josh.		
K	1'SAN			A	uthorized Signa	tory	

B Voc. & Community College Unia Vivekanand College, Kolhapur



]	INVOICE			
The Met	tasis Lab	INVOICE NO.	2205	DATE - 29.03.2022	
Shiroli MIDC		T.C. No As per	T.C. No As per report		
Kolhapu	r-416122	CH. NO:	DATE -		
		P.O.NO:-	DATE -		
Sr. No.	Description	Qty in Nos.	Rate	Amount	
1	Microstructure Analysis	8	500	4000	
2	Volume Fraction	1	1450	1450	
3	Salt Spray Test Hrs	250	10	2500	
		Total CGST @ 9 %		7950.00	
				715.50	
		SGST @ 9 %		715.50	
GSTIN -		Total Amount		9381	
Amount	In Words:- Nine Thousand Three Hu	ndred Eighty One Only			
Pan No	For V	VCK Foundry Technolog	зу		
	Auth	orised Signature cer			

Vivekanand College, Kolhapur