

Produkt

Kumlokk og Ramme, Ø315, VOTEC

Produktdetaljer

Produkt	Ø315 Kumlokk og Ramme, iht. EN124-2, flytende
Anvendelse	Produktene kan kun benyttes i VOTEC gategods, vil ikke passe inn i andre produsenters gategods. Produktene leveres komplett, kumlokk og kumramme, iht. krav i EN124-2. Passer til plastbrønner Ø315 og Ø400.
Type	Teleskopisk, Ø315, med dempering for å unngå klapping, flytende, lukkede spetthull og friksjonslås på lokket som gir bedre feste i rammen for ekstra sikkerhet.
Komponenter	Lokk og Ramme av duktilt støpejern. Materialet på pakning påmontert lokket er poly uretan.
Produsent	RBA Ferro Industries Pvt. Ltd.
Henvisninger	Det henvises også til følgende nyttig informasjon: <ul style="list-style-type: none">• Tilhørende FDV- og Monteringsanvisnings- og Miljødokument• VA Miljøblad nr. 2, Renovering av kum• VA Miljøblad nr. 31, Sikkerhet i kummer• VA Miljøblad nr. 32, Montering av kumramme og kumlokk



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1. Introduksjon

VOTEC Kumlokk og Rammer inngår i serien VOTEC, som er Brødrene Dahl's merkevare for produkter til bruk fortrinnsvis innen VMT segmentet.

Produktet er produsert av duktilt støpejern og samsvarer med EN124-2. Det er sertifisert av ICMQ.

Produktene kan kun benyttes i VOTEC gategods, vil ikke passe inn i andre produsenters gategods. Produktene selges komplett, lokk og ramme, iht. krav i EN124-2.

2. Produksjon og Miljø

Produsenten innehar godkjente dokumenter for kvalitetssikring og produksjon, se vedlegg. Produsenten er kvalitetsikret og all produksjon for Brødrene Dahl blir fulgt opp av egne inspektører hos produsenten.

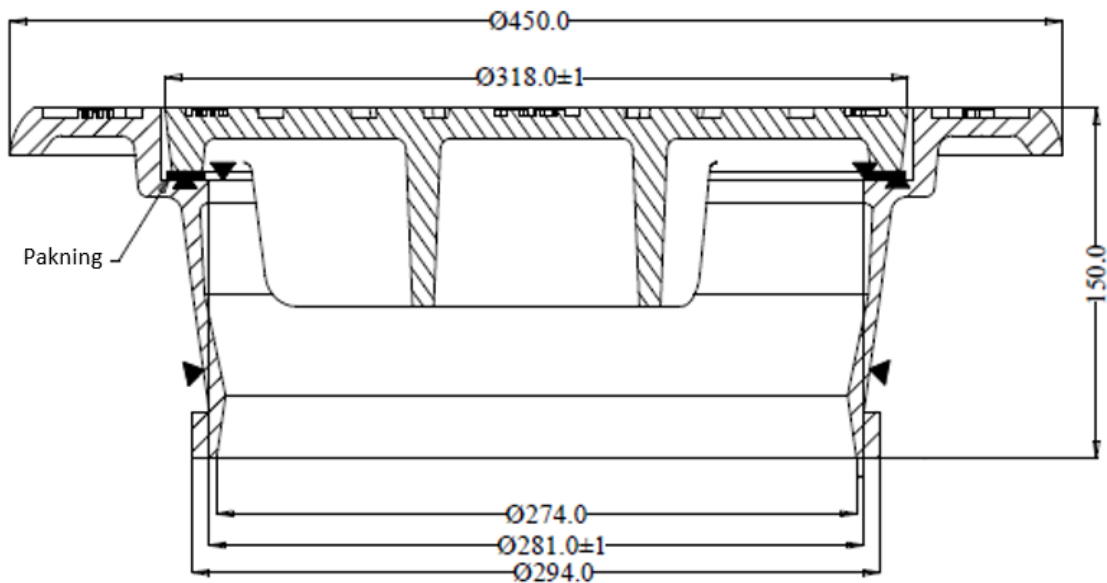
Smelteovnene hos produsenten er elektriske. Se EPD dokument for produktet.

3. Tekniske Data

Last	D400, iht. EN124-2: 400kN, Gruppe 4
Materiale, hovedkomponenter	Duktilt Støpejern, ISO 1083, GJS 500-7. Max. Størrelse på kaviteter i støpejerns materialet: Ø5 mm. Slike kaviteter kan forekomme i materialet, også i overflaten på materialet.
Materiale, Friksjonslåser	2 stk. Friksjonslåsearmen i Duktilt Støpejern, ISO 1083, GJS 500-7
Materiale, pakning	Polypropylen
Overflate, Lokk	Anti-skli overflate med VOTEC design
Sete, Lokk / Ramme	Pakningen er festet på lokket og sikrer at lokket ligger stabilt og motvirker klapping / støy
Installasjon	Installeres i varm asfalt. Se tilhørende Monteringsanvisning for mer informasjon.
Overflatebehandling	Produktet er overflatebehandlet med sort matt farge. Se vedlegg 8 og 9.

4. Mål / Dimensjoner

NRF Nr:	3237163
Beskrivelse	Ø315 Kumlokk og ramme, flytende ramme, D400, m/Friksjons lås, dempepakning og ett spetthull. Kan benyttes ifbm. teleskopisk løsning på stigerør. k



Vekt	
Lokk	13 kg
Ramme	15 kg
Lokk og Ramme	28 kg

5. Bruk & Relaterte Produkter

Kan benyttes som toppløsning på stigerør og teleskopisk løsning.

Avhengig av type stigerør, vil det være nødvendig å benytte en tilpasset pakning mellom stigerøret og teleskoprøret.

6. Standarder, Godkjenninger, Sertifikater & Vedlegg

Vedlegg	ISO 9001	Vedlegg 1
	ISO 14001	Vedlegg 2
	OHSAS-18001	Vedlegg 3
	Material Test Sertifikat	Vedlegg 4
	RBA Kvalitetsplan	Vedlegg 5
	RBA CO2 Reduksjoner	Vedlegg 6
	EN124-1 og EN124-2, ICMQ Sertifikat	Vedlegg 7
	Sikkerhets Data Blad, Maling	Vedlegg 8
	Test Rapport, Maling, REACH	Vedlegg 9
Standarder	EN124-2	Sluktopper og kumtopper for kjøre- og fotgjengerområder - Del 2: Sluktopper og kumtopper laget av støpejern

Vedlegg 1



Certificate of Registration

(Quality Management System)

KVQA CERTIFICATION SERVICES PVT. LTD.

This is to certify that the Quality Management System of

M/S. RBA FERRO INDUSTRIES PRIVATE LIMITED

Head Office: 2/6, Sarat Bose Road, Suite No. 808, Central Plaza,
Kolkata - 700 020, West Bengal, India.

Works: NH-6, Vill. & P.O.: Prasastha, P.S.-Domjur, Howrah - 711 302, W.B., India.

Off Site Works: RB Agarwalla & Co. Pvt. Ltd., -(Rourkela Unit), IDCO,
Plot No. 180/184, Industrial Estate, Kalunga, Rourkela, Odisha.
Chirag Casting Pvt. Ltd., 29.5 Mile Stone, Jungalpur, P.O. Begri,
Domjur, Howrah, W.B.

Has been found to be of the Quality Management System Standard

ISO 9001:2015

This certificate is valid for the following product or service range

**Manufacturing, Machining & Supply of Grey Iron and SG Iron,
Automotive, Engineering, Valves, Utility Castings, Municipal
Covers and Frames**

1st Surveillance Due On: 22/02/2019 Done On:
2nd Surveillance Due On: 22/02/2020 Done On:

Certificate No: KDACQ201803069

Date of Issue: 22, March, 2018

Valid Until: 21, March, 2021*



Issued by

Authorised signatory KVQA



CB-045-MS

DAC (Dubai Accreditation Centre) is a Department within Dubai Municipality and is responsible for providing accreditation of conformity assessment bodies (CABs) in the fields of certification and inspection. Accreditation by DAC demonstrates the competence and independence of KVQA.

Accreditation by a member of IAF's MLA for Quality Systems

To Check the status of the Certification kindly log on to www.kvqa.in

F-300, Sector -63, Noida U.P., India. Ph-011-22711940, 22711941, email: delhi@kvqaindia.com

*Subject to successful completion of surveillance audits

Vedlegg 2



KVQA

Certificate of Registration

(Environment Management System)

KVQA CERTIFICATION SERVICES PVT. LTD.

This is to certify that the Environment Management System of

M/S. RBA FERRO INDUSTRIES PRIVATE LIMITED

Head Office: 2/6, Sarat Bose Road, Suite No. 808, Central Plaza,
Kolkata - 700 020, West Bengal, India.

Works: NH-6, Vill. & P.O.: Prasastha, P.S. - Domjur,
Howrah - 711 302, West Bengal, India.

Has been found to be of the Environment Management System Standard

AS/NZS ISO 14001:2015 / ISO 14001:2015

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**Manufacturing, Machining & Supply of Grey Iron and SG Iron,
Automotive, Engineering, Valves, Utility Castings, Municipal
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1st Surveillance Due On: 22/02/2019 Done On:

2nd Surveillance Due On: 22/02/2020 Done On:

Certificate No: IESC201803003

Date of Issue: 22, March, 2018

Valid Until: 21, March, 2021*



Issued by

Authorised signatory KVQA

JAS-ANZ



M5400913IN
www.jas-anz.org

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Accreditation by a member of IAF's MLA for Quality Systems

To Check the status of the Certification kindly log on to www.kvqa.in
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*Subject to successful completion of surveillance audits

Vedlegg 3



KVQA

Certificate of Registration

(Occupational Health & Safety Management System)

KVQA CERTIFICATION SERVICES PVT. LTD.

This is to certify that the Occupational Health & Safety Management System of

M/S. RBA FERRO INDUSTRIES PRIVATE LIMITED

Head Office: 2/6, Sarat Bose Road, Suite No. 808, Central Plaza,
Kolkata - 700 020, West Bengal, India.

Works: NH-6, Vill. & P.O.: Prasastha, P.S.-Domjur, Howrah - 711 302, W.B., India.

Has been found to the Occupational Health & Safety Management System Standard

OHSAS 18001:2007

This certificate is valid for the following product or service range

**Manufacturing, Machining & Supply of Grey Iron and SG Iron,
Automotive, Engineering, Valves, Utility Castings, Municipal
Covers and Frames.**

1st Surveillance Due On: 22/02/2019 Done On:
2nd Surveillance Due On: 22/02/2020 Done On:

Certificate No: IQSC201803004

Date of Issue: 22, March 2018

Valid Until: 21, March, 2021*



Issued by

Authorised signatory KVQA

JAS-ANZ



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Vedlegg 4



consultation - engineering - delivery

ISO 9001: 2008, ISO 14001: 2004
ISO TS16949: 2009

RBA Ferro Industries Private Limited

HEAD OFFICE

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Email : mail@rbaferro.com ; Website: www.rbaferro.com

Works: (NH6), Vill & PO: Prasastha, PS: Domjur, Howrah 711302, WB

Phone: +91 3326691126, Telefax: +91 3326691191

Material Test Certificate

FOUNDRY-A

Record No: RBA/Fdy-1/LAB/R-02B / Rev. No. : 01 w.e.f: 01.03.2013

Page: **01 OF 01**

Date: **10.10.2020**

Customer Name	SAINT GOBAIN	Report No.	20-21/A/Saint Gobain - 25
Part Name	614X1321X205 HT. MANHOLE 2 COVER & FRAME FOR TELECOMMUNICATION (D400)	Order No.	
Drawing / Part No.	RBAD 1441	Invoice No. / Challan No.	
Matl. Grade	ISO : 1083, 500/7		

Customer's Specification

	Chemical Composition								Mechanical Properties			Micro	Hardness (BHN)	Matrix
	% C	% Si	% Mn	% P	% S	% Cr	% Cu	% Mg	UTS (Mpa)	% Yield Strength (Mpa)	% Elongation	% Nod'ty		
Min.	3.4	2.2	0.2	-	-	-	-	0.03	500	320	7	80	Ferrite+Pearlite	
Max.	3.8	2.8	1	0.08	0.02	-	-	0.06	-	-	-	230		

Test Result

Casting No.	Heat No.	Chemical Composition								Mechanical Properties			Micro	Hardness (BHN)	Matrix
		% C	% Si	% Mn	% P	% S	% Cr	% Cu	% Mg	UTS (Mpa)	% Yield Strength (Mpa)	% Elongation	% Nod'ty		
-	201038	3.60	2.59	0.37	0.067	0.008	-	-	0.041	554.03	404.29	10.51	94.38	187	Ferrite+Pearlite
-	201019	3.55	2.51	0.34	0.069	0.011	-	-	0.040	557.53	408.18	9.77	90.82	187	Ferrite+Pearlite

Remarks: Results as per specification

Checked By : **Dipankar Biswas**
(Lab in-charge)



Approved By : **T. Paul**
(QA/QC Manager)

Vedlegg 5



RBA FERRO INDUSTRIES PVT. LTD.

FOUNDRY DIVISION

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Rev. No.:- 11

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QUALITY PLAN

SECTION : SAMPLING STAGE OF COMPONENT

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
Development	Receiving of Drawing	Every Enquiry	As per received drawing/Drawing Register	Visual Study		Development	RBA/Fdy/PS/D-02	Feasible/Not Feasible/Notify to Marketing Head
	Feasibility Study	Every Enquiry	"	As per the APQP Plan & Technical Feasibility Study	APQP Formats & Review Set-up		RBA/Fdy/PS/R-10	
Pattern Shop	Pattern Inspection	Pattern newly Received	Newly prepared Pattern as per the drawing	Manual By Inspector	Venier Caliper,Depth gauge,Steel Scale,Height Gauge	Pattern Shop	RBA/Fdy/PS/R-02	Notify to Plant Head
	Sampling Report (Casting Lay-Out dimension)	New Produced Sample atleast -2 Nos	As per received drawing	"	"	QA	RBA/Fdy/QA/R-02	
Development	Submission to customer	For Approval	"	As per the drawing & Customer Requirements (if any)	Visual	Development	Via Mail	Notify to Marketing Head
	PPAP Submission (If Applicable)	"	"	Level 4 documentation requirement	By Electronic means	"	By Part Submission Warrant	
Pattern Shop	Releasing of Pattern for Production	After Approval from QA	"	As per Pattern realising certificate	-----	Pattern Shop	RBA/Fdy/PS/R-06	Notify to Production

Prepared By

Reviewed & Approved By :



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QUALITY PLAN

SECTION : RAW MATERIAL TESTING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
Lab	Radiation Test (For PI & MS) For Steel scrap	One "composit" Sample/Batch	< 10 µR/H	By Instrument	NUCLEONIX	Lab	LAB/R-08	Reject/Notify Plant Head
	Carbon		0.65% max	Combustion	Strolein Apparatus			
	Silicon		1.20% max	Ignition	Balance, Measuring cylinder			
Manganese	1.30% max		Titration	Balance, Measuring cylinder, Measuring burette				
Sulphur	0.06% max		Titration					
Phosphorus	0.08% max		Titration					
Pig iron(DI)								
Carbon	3.20 - 4.50%		Same as above	Same as above				
Silicon	0.6 - 2.2%			"				
Manganese	0.80% max			"				
Phosphorus	0.15% max			"				
Sulphur	0.06% max			"				
Pig iron(CI)								
Carbon	3.20 - 4.50%			"				
Silicon	0.8 - 2.0%			"				
Manganese	0.80% max			"				
Phosphorus	0.15% max			"				
Sulphur	0.06% max			"				
Fe-Cr	Cr. : 60 - 70%		"					
Prepared By				Reviewed & Approved By :				



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QUALITY PLAN

SECTION : RAW MATERIAL TESTING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
Lab	<u>For Shell Sand</u>	Collect Material from 3 – 4 Different locations & mix to make a Sample		Manual	Sand sieve, Muffle furnace, Core gas determinator	Lab	RBA/Fdy/R-08	Reject/Notify Plant Head
	AFS No		50 – 65%					
	L.O.I		5.0 % Max					
	Gas		25 cc/gm Max					
	<u>For Dextrine</u>				Balance, Hot Plate Airoven, Muffle furnace Crucible, Cylinder			
	Ash		1% Max	Ignition				
	Insolubility		5 % Max	Titration				
RAW MATERIAL Production Consumable	<u>For Fe-Si Lumps</u>	One Sample/Batch		Ignition	Balance, Hot Plate Airoven, Muffle furnace Crucible, Balance, Hot Plate Airoven, Burette, Flask, Beaker			
	Silicon		60 – 75%					
	<u>For Fe-Mn</u>			Titration				
	Manganese	65 – 75%						
	<u>For Fe-Cr</u>			"				
	Cr	60 – 70%						
	<u>For Fe-Si-Mg</u>	As per Supplier T.C		Titration	Balance, Hot Plate Airoven, Muffle furnace, Burette, Flask, Beaker, Measuring, cylinder, Crucible, Decicator			
	Magnesium		6 – 12%					
	Fe-Si		40 – 45%	Ignition				
	<u>For Pure Mg</u>							
Magnesium	99%		"					
<u>For Innoculine</u>			"					
Silicon	60 – 75%							

Note : 1) Reference standard IS: 1559 : Methods of chemical analysis of Ferro alloys & standard IS: 14529 : Chemical analysis of Ferro –Silicon Magnesium alloys

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QUALITY PLAN

SECTION : RAW MATERIAL TESTING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN	
Lab	<u>For Graphite Powder(For Moulding)</u>					Lab	RBA/Fdy/R-08	Reject/Notify Plant Head	
	Fixed Carbon	Collect Material from 3 – 4 Different locations & mix to make a Sample	75 % Min.	Weight Analysis	Airoven,Muffle furnace Crucible,Decicator				
	Ash		2.0 % Max						
	VM		5.0 % Max						
	<u>For Carburizer</u>								
	Fixed Carbon		95% Min.	"	"				
	Ash		5% Max						
VM	1.5% Max								
RAW MATERIAL Production Consumable	<u>For Bentonite Powder</u>					Lab	RBA/Fdy/R-08	Reject/Notify Plant Head	
	Moisture	One Sample/Batch	5 – 14%	"	Air oven,pH Indicator Paper,Measuring Cylinder,M.B Clay tester,Measuring Cylinder				
	PH Value		9 – 10.5						
	Free Swelling		25 ml Min.						
	M.B Value		80 ml /gm Min						
	Gel formation Index		60 ml Min						
	<u>For Lustris Carbon Additives</u>								
	Ash	"	2 – 6%	"	Airoven,Muffle furnace Crucible,Decicator				
	VM		40 – 65%						
	Fixed Carbon		30 – 55%						
	<u>For Silica Sand</u>								
	Moisture	"	1 % Max (Dry) 6% Max (Wet)	"	Airoven,Sand Washer, Beaker,Sieve Shaker				
	Clay		2% Max						
	AFS No.		45 – 70						
L.O.I	2% Max								
<u>For Proprietary Items</u>		Material Performance	Satisfactory results	Line Performance		Lab/Production			
Prepared By				Reviewed & Approved By :					



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QUALITY PLAN

SECTION : UNIT SAND PREPRATION & SAND TESTING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
MOULDING	<u>For Unit Sand</u>							
	Return Sand	Each batch	90 – 98%	Visual		SS-MLD		Reject/Notify Plant Head
	New Sand		2.0 – 10 %	"		"		
	Bentonite		0.20% – 1.80%	"		"		
	LCA		0.10%. – 0.50%	"		"		
	Moisture		3.0 – 5.0%	"		"		
	Compactibility	Each batch	30–55%	Visual	Sand multi controller	SS-S.Plant	Auto save	
	L.O.I	1/day	4.0 - 9.0%	Visual	Muffle furnace	SS-LAB	LAB/R-03	
	VM	1/day	2.5 – 5.0%	"	V.M Crucible	..	..
	Total clay	1/day	11.0 - 18.0%	"	Sand Washer,Clay tester	..	..
	Active clay	1/day	7.0 - 15.0%	"	M.B Clay tester	..	..
	TC-AC	1/day	2.0 - 5.0	"	Calculation	..	..
	AFS No.	1/day	45 - 70	"	Sandsiever, Sieve	..	..
	Compactibility	1/Hour	30 - 55%	"	Compactibility meter	SS-S.Plant	LAB/R-03	
	GCS	1/Hour	1.10 – 1.80 Kg./cm ²	"	Universal strenght M/c	"	"	
	GSS	1/Hour	0.30 – 0.70 Kg./cm ²	"	"	"	"	
	Permeability	1/Hour	130 - 230	"	Permeability Tester	"	"	
	Moisture	1/Hour	3.0 - 5.0%	"	Moisture Tester	"	"	

Prepared By

Reviewed & Approved By :



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QUALITY PLAN

SECTION : MOULD MAKING & CORE MAKING (SHELL CORE)

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
MOULDING	MATCH 130							
	Match plate Pattern	Each Pattern used	Pattern Dependent Parameter	Visual	-----	SS-MLD	MLD/R-09	Reset
			Pattern Independent Parameter	"		"	MLD/R-09	
	Mould Cake	Each Cake	No damaged Cake	"		"		Reject / Repair
	Squeez Pressure	Each Mould	1.2 – 10.0 Bar	"	VDU display	"		Adjust
	Mould Hardness	1/ Hour	H : 85 – 97	"	Mould HardnessTester	"	MLD/R-12	Reject
	Changing of Heat No. on Pattern	After 1.0T metal pouring /As per cutomer requirement	As per the Heat No. of Melting	"	-----	"	MLD/R-05	Reject
	First Mould Approval Report	Every day/Shift	As per the checking Parameters	"	Visual	"	MLD/R-15	Reset
	ARPA							
	Match plate Pattern	Each Pattern used	No undercut	Visual	-----	SS-MLD	MLD/R-03	Reject /dismount
			No damaged bush pin	"	-----	"	"	"
	Mould Box	Each Box	No damaged box	"	-----	"	MLD/R-04	Reject/Repair
			No damaged bush pin	"	-----	"	"	
	Mould Hardness	4/ day	H= 85 – 95	"	Mould HardnessTester	"	MLD/R-12	Reject
		V= 65 – 80	"	"				
Changing of Heat No. on Pattern	After 1.0T metal pouring /As per cutomer requirement	As per the Heat No. of Melting	"	-----	"	MLD/R-05	Reject	
First Mould Approval Report	Every day/Shift	As per the checking Parameters	"	Visual	"	MLD/R-15	Reset	
Prepared By					Reviewed & Approved By :			



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QUALITY PLAN

SECTION: Core Sand making

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN		
CORE	SHELL CORE									
	Temperature Setting	Each Batch	200 ^o C – 300 ^o C	Visual	Temperature indicator	Core shop Incharge	CORE/R-09	Reject/ Readjust		
	Investment time		20 – 90 Second		Timer		”			
	Core Scratch Hardness		60 – 90		Scratch hardness tester		CORE/R-06			
	Gas	1/Day	25cc / gm Max	Combustion	Core gas determinator		CORE/R-07			
	CO₂ SAND									
	Sodium silicate	Each Batch	6.5 – 9.5%	Visual	Weighing balance	Core shop Incharge	CORE/R-05			
	Ivacol Powder		1.0 – 2.5%		Scratch hardness tester		CORE/R-06			
	Core Scratch Hardness		40 – 70		Core gas determinator		CORE/R-07			
	Gas	1/Day	25cc / gm Max	Combustion	Core gas determinator					
	OIL CORE SAND									
	Dextrin	Each Batch	2.0 – 4.0 %	Visual	Measuring Can	Core shop Incharge	CORE/R-05			
	Bentonite		1.0 – 2.5 %		”					
	Oil		2.0 – 3.5 %		”					
	Water		3.5 – 4.5 %		”					
	Baking Temperature		160 ^o C – 250 ^o C		Temperature Indicator					
	Baking Time		2.0 – 3.0 hrs		Timer					
	Core Scratch Hardness		40 – 70		Scratch hardness tester		CORE/R-06			
	Gas	1/Day	40cc / gm Max	Combustion	Core gas determinator		CORE/R-07			
	Prepared By				Reviewed & Approved By :					



RBA FERRO INDUSTRIES PVT. LTD.

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QUALITY PLAN

SECTION: Core Sand making

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
CORE	<u>NO BAKE CORE</u>							
	Resin Part – A	Each Batch	2.00 – 2.50 %	Visual	Measuring Can	Core shop Incharge	CORE/R-05	Reject/Re-adjust
	Resin Part – B		5 – 10 % of Part–A		”			
	Resin Part – C		18 – 22 % of Part – A		”			
	Core Scratch Hardness		60 – 90		Scratch hardness tester			
	Gas	1/Day	20cc / gm Max	Combustion	Core gas determinator		CORE/R-06 CORE/R-07	
	<u>CORE SET</u>							
	Dextrin	Each Batch	2.0 – 3.5 %	Visual	Measuring Can	Core shop Incharge	CORE/R-05	Reject/Re-adjust
	Bentonite		1.5 – 2.5 %		”			
	Core Set		2.30 – 3.50 %		”			
	Core Scratch Hardness		50 –70		Scratch hardness tester			
	Gas	1/Day	20cc / gm Max	Combustion	Core gas determinator		CORE/R-07	
	Viscosity of Core Paint	As per requirement	12 – 16 seconds	Visual	B4 Cup		CORE/R-04	
	Prepared By				Reviewed & Approved By :			



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QUALITY PLAN

SECTION: Core Sand making for COLD BOX CORE SHOOTER MACHINE

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN	
CORE	SAND								
	AFS No	Each Batch	50 - 65	Weight analysis	Air Oven ,Sand washer, Beaker ,Sieve	Lab	RBA/Fdy/R-08	Reject/Notify Plant Head	
	Moisture		6 % Max						
	Clay		2 % Max						
	RESIN & HARDNER ADDITION LEVEL								
	Resin	1/Day	1.0 -1.5 % wt of sand	Visual	Measuring Can	Core shop Incharge	CORE/R-11	Reject	
	Hardener	"	1.0 -1.5 % wt of sand	"	"		"		
	SAND MAKING CYCLE TIME								
	Sand + Resin	1/Day	2 Minutes mixing	Visual	watch	Core shop Incharge	CORE/R-11	Reject	
	(Sand + Resin) + Hardener	"	1 Minute mixing	"	"		"		
	CORE GAS	1/Day	20 cc /gm Max	Combustion	Core gas determinator	Core shop Incharge	CORE/R-06 /R07	Reject	
	SCRATCH HARDNESS	3/Day	60 - 90	Visual	Scratch hardness tester				
	Bench life of Mixing Sand	Each Batch	45 minutes max	"	watch				
	Prepared By				Reviewed & Approved By :				



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FOUNDRY DIVISION

QUALITY PLAN

SECTION : METAL CHARGE PREPARATION

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
MELTING	DI Metal (Normal heat)			Visual	Weighing Scale	SS-MLT	RBA/Fdy/MLT/R-02	Readjust
	Pig iron	Each Heat	00 % — 50 %					
	MS Scrap		20 % — 80 %					
	DI Foundry return		80 % — 20 %					
	Carburizer		0.3 % — 2.0 %					
	Fe-Si		0.0 % — 2.5 %					
	Fe - Mn		0.0 % — 1.0 %					
	DI Metal (Sintering heat)							
	Pig iron	Each Heat	30 % — 50 %					
	MS Scrap		20 % — 30 %					
	DI Foundry return		50 % — 20 %					
	Carburizer		1.0 % Max					
	Fe-Si		0.5 % Max					
	Fe-Mn		0.8 % Max					
	Copper		0.5 % Max (Optional)					
	CI Metal							
	Pig iron	Each Heat	00 % — 60 %					
	MS Scrap		15 % — 40 %					
	CI Foundry return		85 % — 00 %					
	Carburizer		0.3 % — 1.0 %					
	Fe-Si		0.4 % — 1.5 %					
	Fe-Mn		0.2 % — 1.5 %					
	Fe-Cr		0.4 % Max (optional)					
	Cu		0.6 % Max (optional)					
Sn	0.08 % Max (optional)							
<i>Prepared By</i>				<i>Reviewed & Approved By :</i>				



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QUALITY PLAN

SECTION : METAL PREPARATION, TAPPING & POURING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN	
MELTING (DI)	C.E.	Each Heat (Base Metal)	4.00 – 4.70 %	Visual	CE Analyser	SS-MLT	RBA/Fdy/MLT/R-02	Readjust	
	Carbon	„	3.60 – 4.00 %						
	Silicon	„	1.30 – 2.00 %						
	Tapping Temperature	„	1590 – 1490 °C						
	Fe-Si-Mg	Each Treatment ladle	1.0–1.8% / liquid metal						Immersion Pyrometer
	DI scrap / Boring	„	0.5–1.5% / liquid metal						Weighing Scale
	Treatment time	„	40 second Min						„
	During direct pouring								Watch
	Innocation	Each pouring ladle	0.4–0.6% of liquid metal	Visual	Measured Spoon	MLT/R-03	Readjust		
	Pouring Temperature	3/heat	1460 – 1340 °C		Immersion Pyrometer	„			
	Pouring Time	Each treatment	8 minutes max after treatment		Hooter/Watch	MLT/R-07			
	Before transferring Mg treated metal to Press pour machine	Each Treatment ladle							
	Innocation	Each mold	0.4–0.6% of liquid metal	Visual	Measured Spoon				
	Receiving Temperature (In treatment ladle to Press pour m/c)	Each Treatment ladle	1420 - 1470 °C		Immersion Pyrometer	MLT/R-07	Return to F/c		
	Transfer time	Each Treatment ladle	8 minutes max after treatment		Hooter/Watch	MLT/R-03			
	During pouring from Press pour m/c								
	Innocation	Each mold	0.1 – 0.4% of liquid metal	As per flow gauge setting	MSI machine	MLT/R-08	Resaet		
	Pouring Temperature	Each mould	1460 – 1340 °C	Visual	Immersion Pyrometer	MLT/R-07	Stop pouring/readjust temperature, Relook pattern methoding		
	Pouring Time	1 / Each part	As per data bank		MSI machine	MLT/R-07			
	Sn, Cu (optional)	Each Heat	Sn : 0.01 – 0.07% Cu : 0.10 – 0.50%		Visual and Chemical Analysis	Spectro/Chemical Testing Instruments		SS-LAB	LAB/R-05B
Prepared By					Reviewed & Approved By :				



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QUALITY PLAN

SECTION : METAL PREPARATION, TAPPING & POURING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN		
MELTING (CI)	C.E.	Each Heat (Base Metal)	3.50 – 4.10 %	Visual	CE Analyser	SS-MLT	MLT/R-02	Readjust		
	Carbon	„	3.10 – 3.40 %							
	Silicon	„	1.30 – 1.80 %							
	Tapping Temperature	„	1500 – 1440 °C						Immersion Pyrometer	MLT/R-03
	During direct pouring									
	Innoculation	Each pouring ladle	0.15–0.3% of liquid metal	Visual	Measured Spoon		MLT/R-03	Readjust		
	Pouring Temperature	3/heat	1440 – 1330 °C		Immersion Pyrometer		„			
	Pouring Time	Each pouring ladle	9 minutes max after inoculation		Watch		„			
	Before transferring metal to Press pour machine									
	Innoculation	Each bull ladle	0.15–0.3% of liquid metal	Visual	Measured Spoon		MLT/R-03	Readjust/Return to F/c		
	Receiving Temperature (In bull ladle to Press pour m/c)	Each bull ladle	1400 - 1470 °C		Immersion Pyrometer	MLT/R-07				
	Transfer time	Each bull ladle	9 minutes max after inoculation		Watch	MLT/R-03				
	During pouring from Press pour m/c									
	Innoculation	Each mold	0.1 – 0.4% of liquid metal	As per flow gauge setting	MSI machine	MLT/R-08	Resaet			
	Pouring Temperature	Each mold	1440 – 1330 °C	Visual	Immersion Pyrometer	MLT/R-07	Stop pouring/readjust			
	Pouring Time	1 / Each part	As per data bank		MSI machine	„	Relook pattern methoding			
	Sn, Cu (optional)	Each Heat	Sn : 0.01 – 0.07% Cu : 0.10 – 0.50%	Visual and Chemical Analysis	Spectro/Chemical Testing Instruments	SS-LAB	LAB/R-05	Readjust		
	Prepared By				Reviewed & Approved By :					



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QUALITY PLAN

SECTION : FINAL METAL COMPOSITION / MATRIX

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
LAB	FOR (DI) METAL	Each Treatment				Lab	LAB / R – 05B	Notify Melting/ Plant Head
	C.E.		4.20 – 4.70%	Calculation	Spectro/Chemical Testing Instruments			
	Carbon		3.40 – 3.80%					
	Silicon		2.20 – 2.80%					
	Manganese		0.15 – 1.00%	Visual and Chemical Analysis				
	Sulphur		0.02 % max					
	Phosphorus		0.08 % max					
	Magnesium		0.03-0.06 %					
	Alloys (optional)		As per Requirement					
	FOR MATRIX							
Nodularity	80% min	Visual	Microscope					
Ferrite	As per Requirement		„					
Pearlite	As per Requirement		„					
FINAL METAL	FOR (CI) METAL	Each Ladle				Lab	LAB / R – 05B	Notify Melting/ Plant Head
	C.E.		3.50 – 4.10%	Calculation Visual and Chemical Analysis	Spectro/Chemical Testing Instruments			
	Carbon		2.90 – 3.40%					
	Silicon		1.50 – 2.30%					
	Manganese		0.40 – 1.00%					
	Sulphur		0.10% max					
	Phosphorus		0.12% max					
	Cromium		0.25% max					
	Copper		0.40% max					
	Tin		0.07% max					
	FOR MATRIX							
	Graphite Flakes(Type)		ASTM 'A'Type	Visual	Microscope			
	Pearlite		As per Requirement		„			
	Ferrite		„		„			
Prepared By				Reviewed & Approved By :				



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QUALITY PLAN

SECTION : PHYSICAL PROPERTIES

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN						
LAB	DI	Each Heat	190 – 270 for – IS 1865 (SG-600/3)	Visual	Brinell Hardness Tester	Lab	LAB/R-05(B)	Notify Melting/ Plant Head						
	Casting Hardness		160 – 240 for – IS 1865 (SG-500/7)											
	(BHN)		170 – 230 as per BS EN 124 or ISO 1083 (500/7)											
			160 – 210 for – IS 1865 (SG 450/10)											
			201 Max for– IS 1865 (SG-400/12)											
	Tensile Strength		187 – 255 for – ASTM A 536 (Gr –80–55–06)											
			156 – 217 for – ASTM A 536 (Gr –65–45–12)											
			600 Mpa Min for – IS 1865 (SG-600/3)											
			500 Mpa Min for – IS 1865 (SG-500/7)											
			450 Mpa Min for – IS 1865 (SG 450/10)											
			400 Mpa Min for– IS 1865 (SG-400/12)											
	PHYSICAL		Elongation						552 Mpa Min for – ASTM A 536 (Gr –80–55–06)	Visual	UTS M/C	Lab	LAB/R-05(B)	Notify Melting/ Plant Head
	PROPERTIES								448 Mpa Min for – ASTM A 536 (Gr –65–45–12)					
	LAB								3 % Min for – IS 1865 (SG-600/3)					
									7 % Min.for – IS 1865 (SG-500/7)					
10 % Min for – IS 1865 (SG 450/10)														
12 % Min.for– IS 1865 (SG-400/12)														
6 % Min for – ASTM A 536 (Gr –80–55–06)														
12 % Min for – ASTM A 536 (Gr –65–45–12)														
Yield Strength	370 Mpa Min for – IS 1865 (SG-600/3)													
	320 Mpa Min for– IS 1865 (SG-500/7)													
	310 Mpa Min for – IS 1865 (SG 450/10)													
	250 Mpa Min for – IS 1865 (SG-400/12)													
	379 Mpa Min for – ASTM A 536 (Gr –80–55–06)													
	310 Mpa Min for – ASTM A 536 (Gr –65–45–12)													
CI	Casting Hardness (BHN)	160 – 220 for – IS 210 (FG-200)	Visual	Brinell Hardness Tester	Lab	LAB/R-05(B)	Notify Melting/ Plant Head							
LAB		180 – 220 for – IS 210 (FG-220)												
		180 – 230 for – IS 210 (FG-260)												
		180 – 230 for – IS 210 (FG-300)												
		200 Mpa Min for – IS 210 (FG-200)												
		200 Mpa Min as per BS EN 124 or ISO 185 (Gr.20)												
	220 Mpa Min for – IS 210 (FG-220)													
Tensile Strength	260 Mpa Min for – IS 210 (FG-260)													
	300 Mpa Min for – IS 210 (FG-300)													
Prepared By				Reviewed & Approved By :										



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QUALITY PLAN

SECTION : SHOT BLASTING & FETTLING

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN	
SHOT BLASTING & FETTLING	Shot Size	Each batch	0.7 - 1.2 mm	Measuring	Vernier Caliper	SS FTL	.....	Reject/
	Surface Finish	Each Casting	Sand free casting	Visual	Visual	"			
	Duration of blasting(Hanger type blasting machine)	Each batch	5 – 12 minutes	Visual	Timer	„	FLT/R-02B	Notify Plant Head /Rectify	
	Duration of blasting Peen blasting machine	Each batch	5 – 20 mnutes	Visual	Timer	“	FLT/R-02B	„	
<i>Prepared By</i>					Reviewed & Approved By :				



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QUALITY PLAN

SECTION : FINAL INSPECTION

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
QUALITY ASSURANCE (For Normal castings)	For RAW CASTING							
	Visual Defects	100%	No visual defects	Visual	-----	QA	----	Reject/Rework
	Blow hole	100%	No Blow hole	Visual	-----	"	----	"
	Shrinkage	100%	No Shrinkage	Visual	-----	"	----	"
	Cold shut	100%	No Cold shut	Visual	-----	"	----	"
	Specified Dimensions of each item.	One / lot of Production batch	As per Drawing dimension	Visual	Different Measuring Instruments	QA	QA/R-02	Reject/Rework
	Casting weight	One / lot of Production batch	As per p.o.weight	Weighing	Weighing Scale	"	QA/R-07	Notify Plant Head/Rectify
	Gauge Checking	As Required	As per gauge dimension	Visual	Gauge	"	----	Reject/Rework
	For MACHINED CASTING							
	Dimensions	As Per CP	As per Drawing dimension	Visual	Gauge / Fixture / Measuring Instrument	QA	QA/R-03	Reject/Rework
Prepared By					Reviewed & Approved By :			



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QUALITY PLAN

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN		SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN				
Quality Assurance (Foundry)	For Manhole cover	Sample		As per Specification of EN 124-2:2015	Visual	Filler gauge, Venier Caliper, Depth gauge, Steel tape, Steel Scale	Inspection Foundry & Ware house	RBA/Fdy-1/QA/R-02-2	Check 3 random samples out of the lot, If found o.k., accept the whole lot If any one sample fails. Check 5 new random samples , If all the 5 samples are o.k. accept the whole lot. If any one of the 5 random samples found defective , reject the whole lot.				
	<u>Aspects of Inspection</u>	Size	Frequency										
	Clear opening	3	Supply / Receive Lot										
	Over base												
	Depth												
	Dimensions												
	Frame bearing area												
	Load bearing capacity												
	Permanent set												
	Securing of the cover / grating within the frame												
	Skid resistance												
	Child safety												
	Tilt test	3	When developed	As per the Customer Specification / Standard	Visual	Pull test machine, Vernier Caliper	Inspection Foundry & Ware house	RBA/Fdy-1/QA/R-25					
	Weight									As per P.O. Weight	Weighing	Weighing scale	RBA/Fdy-1/QA/R-02-2
	Pull test												RBA/Fdy-1/QA/R-26
Load	3 / Lot dispatched it will be repeated once in at least every six month or 1: 5000			By Application of Load	Load test m/c		Record No. of Customer Specific Requirement Matrix						
Painting (Epoxy ,CED, Powder coating, Phosphating)	One / Lot		As per customer requirement	Measurement	Viscosity, Coating thickness measuring instrument	Inspection ware house	RBA/Fdy/PHT/R- 03 and RBA/Fdy/CED/R- 03 & 04 & RBA/Fdy/PCT /R-01	Re-paint/ Re-coating/ Re-Phosphating					
Prepared By (QC Manager)					Reviewed & Approved By :								



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QUALITY PLAN

AREA	PARAMETERS TO BE CHECKED	INSPECTION PLAN	SPECIFICATION & TOLERANCES	METHOD OF INSPECTION	INSTRUMENT TO BE USED	RESPONSIBILITY	RECORDS	REACTION PLAN
CNC Shop/ Induction Hardening	<u>For Engg. Component</u>	Size						
	Visual Inspection of Castings	100%	As Per Drawing	As per the visual standard/Display	Standard	CNC Receiving Inspector	RBA/Fdy/CNC-QC/D- 01	Reject/Notify to QC Manager
	Machining of Castings	"	As per Machining Process check Sheet of every operation/Periodical Inspection Record	As per the list of Measuring Instruments	Vernier calliper, Height Gauge,Depth Gauge,Dial Gauge etc.	CNC Shop Incharge	RBA/Fdy/MC/D- 06 RBA/Fdy/MC/R- 08	Reject/Notify to QC Manager
	Dimensional Inspection	Every Lot	As Per Drawing	"	--do--	"	RBA/Fdy/CNC-QC/R- 02	--do--
	Induction Hardening	Once per day	As per the setting parameters	As per the Check Points & WI	Pressure Gauge,Vernier,Pyrometer, filler Gauge, Refractrometer, Polymer etc.	Incharge Heat treatment	RBA/Fdy/HT/R- 02 & R-07	Reject/Notify to QC Manager
	Tempering	100 % of total Lot	165°C	Visual Display	Visual Temp. Indicator	"	-----	-----
	MPI Testing	100 % of total Lot of Induction Hardening / As per customer Specific requirement	As per the setting parameters	As per the check Points Sheet & WI	MPI Machine	"	RBA/Fdy/HT/R- 04 & RBA/Fdy/LAB/R- 15	Reject/Notify to QC Manager
	DP Testing	Suspected Material of the lot MPI done	Visually	As per the Work Instruction	Chemical & Visual	"	-----	"
	HRC Hardness	Every after 2 Hours of production run	53 Min.	WI for HRC Hardness testing	HRC Hardness testing Machine	"	RBA/Fdy/WIO/LAB/D-25	Reject/Notify to QC Manager
	Micro Hardness	Every after 4 Hours of production run	Case depth-0.51 min	First piece approval Report	Check Points in approval report	"	RBA/Fdy/HT /R-09	Reject/Notify to QC Manager
Painting (Epoxy ,CED,Powder coating,Phosphating)	One / Lot	As per customer requirement	Measurement/As per the check Point	Viscosity, Coating thickness measuring instrument	Inspection ware house/ LAB	RBA/Fdy/PHT/R- 03 and RBA/Fdy/CED/R- 03 & 04 & RBA/Fdy/PCT /R-01	Re-paint/ Re-coating/ Re-Phosphating	
Prepared By				Reviewed & Approved By :				

Vedlegg 6



RBA Ferro Industries Pvt.Ltd - CO2 Reduction by Solar PV System

Date	CO2 Reduction (Kg)	CO2 Reduction (Ton)
01/07/2019	3717.97	3.72
01/08/2019	72336.15	72.34
01/09/2019	77653.12	77.65
01/10/2019	82420.77	82.42
01/11/2019	72287.26	72.29
01/12/2019	74115.85	74.12
01/01/2020	76216.81	76.22
01/02/2020	88209.25	88.21
01/03/2020	80909.00	80.91
01/04/2020	61457.94	61.46
01/05/2020	54298.75	54.30
01/06/2020	90021.19	90.02
01/07/2020	74078.87	74.08
Total Reduction	907722.93	907.72

Vedlegg 7



CERTIFICAZIONE DI PRODOTTO

PRODUCT CERTIFICATION

CERTIFICATE N°

CERTIFICATO N°

P534

COMPANY

AZIENDA

RBAFerro Industries Private Limited

2/6 Sarat Bose Road, Central Plaza, Suite 808, Kolkata
700020 - West Bengal, India

PRODUCTION UNIT

UNITA' PRODUTTIVA

NH6, Village and Post Office: Prasastha, Police St - 711302 West Bengal India

SCOPE OF THE CERTIFICATE

OGGETTO DEL CERTIFICATO

**GULLY TOPS AND MANHOLE TOPS FOR VEHICULAR AND
PEDESTRIAN AREAS**

*Dispositivi di coronamento e chiusura per zone di circolazione utilizzate da
pedoni e da veicoli*

REFERENCE STANDARDS

NORME DI RIFERIMENTO

EN 124-1:2015, EN 124-2:2015

CERTIFICATION SYSTEM

SISTEMA DI CERTIFICAZIONE

*General Agreement Conditions for the product certification – CP DOC 229
Condizioni Generali di Contratto per la Certificazione di prodotto - CP DOC 229*

*Particular rules for gully tops and manhole tops - CP DOC 243
Regolamento particolare per dispositivi di coronamento e chiusura – CP DOC 243*

*Instructions for the application of the EN 124:2015 - UNI/TR 11671:2017
Indicazioni per l'applicazione della serie EN 124:2015 – UNI/TR 11671:2017*

PRODUCTS

PRODOTTI

3307011 RBAD-1441

Manhole Top EN 124-2 – D400 – 2/2 – 614 – F – RP

First Issue

Current Issue

Expiry Date

Prima Emissione

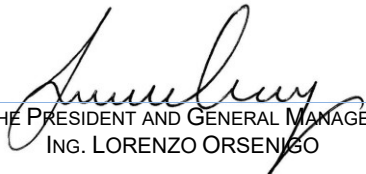
Emissione Corrente

Scadenza

11/05/2022

11/05/2022

31/12/2022


THE PRESIDENT AND GENERAL MANAGER
ING. LORENZO ORSENIKO

Vedlegg 8

MATERIAL SAFETY DATA SHEET

1. PRODUCT

PRODUCT NAME : **Chromalac Syn. Enamel Matt Finish Black Paint**
USE : Protection of Iron & Steel
APPLICATION : By Roller / Brush / Spray

2. PHYSICAL & CHEMICALS PROPERTIES

PHYSICAL STATE : Viscous black liquid with petroleum solvent odour.
FLASH POINT : Above 27⁰C (Abel closed cup).
SOLUBILITY : Immiscible with water.
PRESENCE OF LEAD : Lead free material

3. COMPOSITION

Binder : **Modified Alkyd Resin**
Pigment : **Suitable inert extender & carbon black**
: **(Chemical name: Amorphous CAS Number:1333-86-4)**
Solvent : **Xylene**

4. HEALTH & SAFETY

Flammable ;Harmful;May caused lung damage if swallowed
Toxic to aquatic organisms ; May cause long-term adverse effects in the aquatic environment
Irritating to eyes skin and respiratory tract.
Keep locked up and out of reach from children's; keep away from sources of ignition-NO SMOKING
Wear suitable protective clothing , gloves, overall and eye face protection.

5. FIRST AID

SKIN : Remove contaminated clothing and wash skin thoroughly.Wash with soap and water.Obtain medical attention for any persistent skin irritation or abnormality.
EYE : Flood with water for at least 15 minutes,blinking as possible.Do not force the eye lid open.If irritation persists obtain medical attention.
INHALED : Remove effected person from contaminated area.If not breathing,apply artificial respiration.Urgently seek medical advice.

7. FLAMMABILITY

Flammable, Isolate from source of heat, naked flames or sparks.Take precaution against static electricity discharges.Earth and bend all process equipment including tanks and drums.
Explosive Air-Vapour mixture may form,ensure adequate ventilation .Keep away from strongly oxidizing materials-Ensure equipment and fittings are flame proofed.

8. PACKING & STORAGE

Material is supplied in 1ltr, 4ltrs & 20ltr cans and has a storage life of upto 12 months if stored in dry, un-opened condition.

9. DISPOSAL CONDITION

Disposal Method : Dispose of in accordance with local Authority requirements

The above information given in this Data Sheet is true to the best of our knowledge observed while tested in ideal condition in our Laboratory.

M.BISWAS
(TECHNICAL MANAGER)

Vedlegg 9

Report No. : MAN:HL:1048005563-2

DATE : 07th August, 2019

RBA FERRO INDUSTRIES PRIVATE LIMITED
2/8 SARAT BOSE ROAD
KOLKATA-700141
INDIA
CONTACT PERSON : HARSHVARDHAN AGARWAL

THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED AND IDENTIFIED BY/ON BEHALF OF THE CUSTOMER AS :

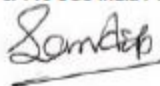
SAMPLE DESCRIPTION SYN. ENA. MATT FINISH BLACK PAINT
COUNTRY OF ORIGIN INDIA
SAMPLE RECD ON 11/07/2019
TEST PERFORMING DATE 12/07/2019 TO 18/07/2019

SUMMARY OF TEST RESULTS:

TEST REQUESTED	CONCLUSION
1. POLYAROMATIC HYDROCARBON (PAH) CONTENT	SEE RESULTS
2. TOTAL CADMIUM CONTENT	SEE RESULTS
3. TOTAL LEAD CONTENT	SEE RESULTS
4. PHTHALATES	SEE RESULTS
5. ORGANO TIN COMPOUNDS (OTC)	SEE RESULTS
6. One hundred and ninety-seven (197) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 15, 2019 regarding Regulation (EC) No 1907/2006 concerning the REACH.	--
According to the specified scope and analytical techniques, concentrations of tested SVHC are \leq 0.1% (w/w) in the submitted sample. Concentrations of tested SVHC with specific concentration limit (SCL)* $<$ 0.1% (w/w) set in Regulation (EC) No. 1272/2008 and its amendments are $<$ reporting limit. *Please refer to Note 2 on the following page	PASS

TEST(S) RESULT & METHOD: PLEASE REFER TO NEXT PAGE(S)

Per Pro SGS India Pvt. Ltd.



SANDIP BHUSHAN(Asst. Manager)

Email your Test Report Related Enquiries at Feedback.HLT@sgs.com

Revision Remark: Report has been revised to add test result of Organo Tin Compounds (OTC) Test.

This Report cancels and supersedes the Report No 1048005563-1 Dated 25/07/2019 issued by SGS India

JOE No. : 194802911 4428826 Page 1 of 14 Control No.: 1048005795
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TEST RESULTS :-

1. POLYAROMATIC HYDROCARBON (PAH) CONTENT:

Method: With reference to AFPS GS 2014:01 PAK; Analysis was conducted by GC-MS.

Test Item	Test Results (mg/kg)	Requirements (mg/kg)
Benzo(a)anthracene (BaA)	Not Detected	/
Benzo(a)pyrene (BaP)	Not Detected	/
Benzo(b)fluoranthene (BbF)	Not Detected	/
Benzo(g,h,i)perylene (BpE)	Not Detected	/
Benzo(j)fluoranthene (BjF)	Not Detected	/
Benzo(k)fluoranthene (BkF)	Not Detected	/
Chrysene (CHR)	Not Detected	/
Dibenzo(a,h)anthracene (DBA)	Not Detected	/

Detection Limit :1.0 mg/kg (For individual substrate)

Tested Item : SYN. ENA. MATT FINISH BLACK PAINT

Note :

- mg/kg=milligram per kilogram
- Testing has been subcontracted to SGS approved lab.

2.TOTAL CADMIUM CONTENT:

METHOD: Total digestion method / Analysis was conducted by AAS or ICP- MS.

Test Name	Test Results	Requirement
Total Cadmium Content	Not Detected	/

Detection Limit: 5 mg/kg

Tested Item : SYN. ENA. MATT FINISH BLACK PAINT

Note:

- mg/kg=milligram per kilogram.
- Testing has been subcontracted to SGS approved lab.

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3. TOTAL LEAD CONTENT:
METHOD: Total digestion method / Analysis was conducted by AAS or ICP- MS.

Test Name	Test Results	Requirement
Total Lead Content	Not Detected	/

Detection Limit: 5 mg/kg

Tested Item : SYN. ENA. MATT FINISH BLACK PAINT

Note:

- mg/kg=milligram per kilogram.
- Testing has been subcontracted to SGS approved lab.

4. PHTHALATES:-
METHOD: With reference to CPSC-CH-C1001-09.3. Analysis was performed by GC-MS.

	Test Results	Requirement
Dibutylphthalate (DBP)	Not Detected	/
Benzylbutylphthalate (BBP)	Not Detected	/
Bis-(2-ethylhexyl)phthalate (DEHP)	Not Detected	/
Diisobutyl phthalate (DIBP)	Not Detected	/
1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	Not Detected	/
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	Not Detected	/
Diisopentylphthalate (DIIPP)	Not Detected	/
N-Pentyl-isopentylphthalate (NPIPP)	Not Detected	/
Dipentyl phthalate (DPP)	Not Detected	/
Dihexyl phthalate	Not Detected	/
Bis(2-methoxyethyl) phthalate	Not Detected	/

Detection limit: 50 mg/kg (for individual compound)

Tested Item : SYN. ENA. MATT FINISH BLACK PAINT

Note:

- mg/kg=milligram per kilogram.
- Testing has been subcontracted to SGS approved lab.

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5.ORGANO TIN COMPOUNDS (OTC):-

Method: With ref. to CEN ISO/TS 16179:2012. Analysis was conducted by GC-MS.

Organotin	Result (mg/kg by weight of tin)	Recommended Max. Limit (mg/kg by weight of tin)
Tributyltin (TBT)	Not Detected	--
Tripropyltin (TPT)	Not Detected	--
Dibutyltin (DBT)	Not Detected	--
Diocetyl tin (DOT)	Not Detected	--

Detection Limit: 1mg/kg.

Tested Item : SYN. ENA. MATT FINISH BLACK PAINT

Note:

1. mg/kg=milligram per kilogram
2. Testing has been subcontracted to SGS approved lab.

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Report No. : MAN:HL:1048005563-2

DATE : 07th August, 2019

6. One hundred and ninety-seven (197) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 15, 2019 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Method:

SGS In-House method - Analyzed by ICP-MS/OES, GC-MS, UV-VIS, HPLC-DAD, HPLC-MS and colorimetric method

Test Result

No.	Substance Name	CAS No. / EC No.	Concentration (%)
-	All tested SVHC	-	ND

Notes :

1. RL = Reporting Limit. All RL are based on homogenous material.
ND = Not detected (lower than RL)
2. * SCL = Specific Concentration Limit. All SCL are set out in Regulation (EC) No 1272/2008 and its amendments. Specific concentration limits and generic concentration limits are limits assigned to a substance indicating a threshold at or above which the presence of that substance in another substance or in a mixture as an identified impurity, additive or individual constituent leads to the classification of the substance or mixture as hazardous. The SVHCs with SCL values <0.1% are specified in the test result tables.

* The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website:

<http://www.sgs.com/en/Consumer-Goods-Retail/Toys-and-Juvenile-Products/Toys/REACH/Management-of-SVHC.aspx>

The client is advised to review the chemical formulation to ascertain above metal substances present in the article.

RL = 0.01% for organic substances, 0.001% is evaluated for element (i.e. aluminum, antimony, arsenic, barium, boron, cadmium, calcium, chromium, chromium (VI), cobalt, lead, potassium, silicon, sodium, strontium, titanium, zirconium and zinc respectively), except molybdenum RL = 0.0001%.

† Regulation (EC) No 1272/2008 Classification, Labelling and Packaging of Substances and Mixtures, and its amendments.

* Client has the obligation to comply with the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006, unless the use has been exempted from Authorization. Article 58(8) of Regulation (EC) No. 1907/2006 specified the concentration limit requirement of Authorization of SVHC in mixture.

The ECHA SVHC authorization list (Jun 13, 2017) is available at

<https://echa.europa.eu/authorisation-list>

This list is under evaluation by ECHA and may subject to change in the future

3. The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
4. Testing has been subcontracted to SGS approved lab.

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Remark :

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:

- <https://echa.europa.eu/web/guest/candidate-list-table> (Candidate list)

These lists are under evaluation by ECHA and may subject to change in the future.

2. If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and its amendments, client is suggested to prepare a Safety Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:

- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.

- a mixture that is classified as hazardous under the CLP Regulation (EC) No 1272/2008, when it contains a substance with concentration equal to, or greater than the classification limit as set in Regulation (EC) No. 1272/2008; or

- a mixture is not classified as hazardous under the CLP Regulation (EC) No 1272/2008, but contains either:

- (a) a substance posing human health or environmental hazards in an individual concentration of $\geq 1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or $\geq 0.2\%$ by volume for gaseous mixtures; or
 (b) a substance that is PBT or vPvB in an individual concentration of $\geq 0.1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or
 (c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of $\geq 0.1\%$ by weight for non-gaseous mixtures; or
 (d) a substance for which there are Europe-wide workplace exposure limits

Tested Item: SYN. ENA. MATT FINISH BLACK PAINT

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Appendix

No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Oct 28, 2008							
1	4,4'-Diaminodiphenylmethane (MDA)	101-77-9/ 202-974-4	0.010	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2/ 201-329-4	0.010
3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-94-8/ 287-476-5	0.010	4	Anthracene	120-12-7/ 204-371-1	0.010
5	Benzyl butyl phthalate (BBP)	85-88-7/ 201-622-7	0.010	6	Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7/ 204-211-0	0.010
7	Bis(tributyltin)oxide (TBTO)	56-35-9/ 200-268-0	0.010	8	Cobalt dichloride*	7648-79-9/ 231-589-4	0.001
9	Diarsenic pentaoxide*	1303-28-2/ 215-116-9	0.001	10	Diarsenic trioxide*	1327-53-3/ 215-481-4	0.001
11	Dibutyl phthalate (DBP)	84-74-2/ 201-557-4	0.010	12	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD)	25637-99-4/ 247-148-4; 3194-55-8/ 221-895-9; (134237-50-8/-; 134237-51-7/-; 134237-52-8/-)	0.010
13	Lead hydrogen arsenate*	7784-40-9/ 232-064-2	0.001	14	Sodium dichromate*	7789-12-0 10589-01-9/ 234-190-3	0.001
15	Triethyl arsenate*	15606-95-8/ 427-700-2	0.001				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jan 13, 2010							
16	2,4-Dinitrotoluene	121-14-2/ 204-450-0	0.010	17	Anthracene oil*	90840-80-5/ 292-802-7	0.010
18	Anthracene oil, anthracene paste*	90840-81-6/ 292-803-2	0.010	19	Anthracene oil, anthracene paste, anthracene fraction*	91995-15-2/ 295-275-9	0.010
20	Anthracene oil, anthracene paste; distn. Lights*	91995-17-4/ 295-278-5	0.010	21	Anthracene oil, anthracene-low*	90640-82-7/ 292-804-8	0.010
22	Diisobutyl phthalate	84-89-5/ 201-553-2	0.010	23	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)*	12656-85-8/ 235-759-9	0.001
24	Lead chromate*	7758-97-6/ 231-846-0	0.001	25	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2/ 215-893-7	0.001
26	Pitch, coal tar, high temp.*	65996-93-2/ 286-028-2	0.010	27	Tris(2-chloroethyl)phosphate	115-95-8/ 204-118-5	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Mar 30, 2010							
28	Acrylamide	79-06-1/ 201-173-7	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 18, 2010							
29	Ammonium dichromate*	7789-09-5/ 232-143-1	0.001	30	Boric acid*	10043-35-3/ 233-139-2; 11113-50-1/ 234-343-4	0.001

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No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
31	Disodium tetraborate, anhydrous*	1303-96-4 1330-43-4 12179-04-3/ 215-540-4	0.001	32	Potassium chromate*	7789-00-6/ 232-140-5	0.001
33	Potassium dichromate*	7778-50-9/ 231-906-6	0.001	34	Sodium chromate*	7775-11-3/ 231-889-5	0.001
35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1/ 235-541-3	0.001	36	Trichloroethylene	79-01-6/ 201-167-4	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 15, 2010							
37	2-Ethoxyethanol	110-80-5/ 203-804-1	0.010	38	2-Methoxyethanol	109-86-4/ 203-713-7	0.010
39	Acids generated from chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid*	7738-94-5/ 231-801-5; 13530-88-2/ 236-881-5	0.001	40	Chromium trioxide*	1333-82-0/ 215-607-8	0.001
41	Cobalt(II) carbonate*	513-79-1/ 208-169-4	0.001	42	Cobalt(II) diacetate*	71-48-7/ 200-755-8	0.001
43	Cobalt(II) dinitrate*	10141-05-6/ 233-402-1	0.001	44	Cobalt(II) sulphate*	10124-43-3/ 233-334-2	0.001
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 20, 2011							
45	1,2,3-Trichloropropane	96-18-4/ 202-486-1	0.010	46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6/ 276-158-1	0.010
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4/ 271-084-6	0.010	48	1-Methyl-2-pyrrolidone	872-50-4/ 212-828-1	0.010
49	2-Ethoxyethyl acetate	111-15-9/ 203-839-2	0.010	50	Hydrazine	7803-57-8 302-01-2/ 206-114-9	0.010
51	Strontium chromate*	7789-06-2/ 232-142-6	0.001				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 19, 2011							
52	1,2-Dichloroethane	107-06-2/ 203-458-1	0.010	53	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4/ 202-918-9	0.010
54	2-Methoxyaniline	90-04-0/ 201-993-1	0.010	55	4-tert-Octylphenol	140-66-9/ 205-426-2	0.010
56	Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.001	57	Arsenic acid*	7778-39-4/ 231-901-9	0.001
58	Bis(2-methoxyethyl) ether	111-96-6/ 203-924-4	0.010	59	Bis(2-methoxyethyl) phthalate	117-82-8/ 204-212-6	0.010
60	Calcium arsenate*	7778-44-1/ 231-904-5	0.001	61	Dichromium tris(chromate)*	24613-89-6/ 246-356-2	0.001
62	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4/ 500-036-1	0.010	63	Lead diazide*	13424-46-9/ 236-542-1	0.001

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Report No. : MAN:HL:1048005563-2
DATE : 07th August, 2019

No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
64	Lead dipicrate*	6477-64-1/ 229-335-2	0.001	65	Lead styphnate*	15245-44-0/ 239-290-0	0.001
66	N,N-dimethylacetamide (DMAC)	127-19-5/ 204-826-4	0.010	67	Pentazinc chromate octahydroxide*	49663-84-5/ 256-418-0	0.001
68	Phenolphthalein	77-09-8/ 201-004-7	0.010	69	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9/ 234-329-8	0.001
70	Trilead diarsenate*	3687-31-8/ 222-979-5	0.001	71	Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.001

Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 18, 2012

72	[4-[[4-anilino-1-naphthyl]4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5/ 219-943-6	0.010	73	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9/ 208-953-6	0.010
74	1,2-bis(2-methoxyethoxy) ethane (TEGDME; triglyme)	112-49-2/ 203-977-3	0.010	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4/ 203-794-9	0.010
76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8/ 202-027-5	0.010	77	4,4'-bis(dimethylamino)-4'-(methylamino)trityl alcohol	561-41-1/ 209-218-2	0.010
78	Diboron trioxide*	1303-86-2/ 215-125-8	0.001	79	Formamide	75-12-7/ 200-842-0	0.010
80	Lead(II) bis(methanesulfonate)*	17570-76-2/ 401-750-5	0.001	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1/ 202-959-2	0.010
82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	2451-62-9/ 219-514-3	0.010	83	α,α-Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0/ 229-851-8	0.010
84	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6/ 423-400-0	0.010				

Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 19, 2012

85	[Phthalato(2-)]dioxotrilead*	69011-06-9/ 273-688-5	0.001	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0/ 284-032-2	0.010
87	1,2-Diethoxyethane	629-14-1/ 211-076-1	0.010	88	1-Bromopropane	106-94-5/ 203-445-0	0.010
89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2/ 421-150-7	0.010	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.010
91	4,4'-Methylenedi- <i>o</i> -toluidine	838-88-0/ 212-658-8	0.010	92	4,4'-Oxydianiline	101-80-4/ 202-977-0	0.010
93	4-Aminoazobenzene	60-09-3/ 200-453-6	0.010	94	4-Methyl- <i>m</i> -phenylenediamine	95-80-7/ 202-453-1	0.010
95	4-Nonylphenol, branched and linear	-	0.010	96	6-Methoxy- <i>m</i> -toluidine	120-71-8/ 204-419-1	0.010
97	Acetic acid, lead salt, basic*	51404-69-4/ 257-175-3	0.001	98	Biphenyl-4-ylamine	92-67-1/ 202-177-1	0.010
99	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5/ 214-604-9	0.010	100	C,C'-azodi(formamide) (ADCA)	123-77-3/ 204-650-8	0.010

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No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
101	Dibutyltin dichloride (DBT)	683-18-1/ 211-670-0	0.010	102	Diethyl sulphate	64-67-5/ 200-589-6	0.010
103	Diisopentylphthalate (DIPP)	605-50-5/ 210-088-4	0.010	104	Dimethyl sulphate	77-78-1/ 201-058-1	0.010
105	Dinoseb	88-85-7/ 201-861-7	0.010	106	Dioctylbis(stearato)trilead*	12578-12-0/ 235-702-8	0.001
107	Fatty acids, C16-18, lead salts*	91031-62-8/ 292-966-7	0.001	108	Furan	110-00-9/ 203-727-3	0.010
109	Henicosfluoroundecanoic acid	2058-94-8/ 218-165-4	0.010	110	Heptacosfluorotetradecanoic acid	376-06-7/ 206-803-4	0.010
111	Hexahydro-2-benzofuran-1,3-dione, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7/ 201-604-9; 13149-00-3/ 236- 086-3; 14168-21-3/ 238- 009-9	0.010	112	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	25550-51-0/ 247- 094-1; 19438-60-9/ 243- 072-0; 48122-14-1/ 256- 368-4; 57110-29-9/ 260- 566-1	0.010
113	Lead bis(tetrafluoroborate)*	13814-96-5/ 237-486-0	0.001	114	Lead cyanamidate*	20837-86-9/ 244-073-9	0.001
115	Lead dinitrate*	10099-74-8/ 233-245-9	0.001	116	Lead monoxide*	1317-36-9/ 215-267-0	0.001
117	Lead oxide sulphate*	12036-76-9/ 234-853-7	0.001	118	Lead tetroxide*	1314-41-6/ 215-235-6	0.001
119	Lead titanium trioxide*	12080-00-3/ 235-038-9	0.001	120	Lead titanium zirconium oxide*	12626-81-2/ 235-727-4	0.001
121	Methoxyacetic acid	625-45-6/ 210-894-6	0.010	122	N,N-Dimethylformamide	68-12-2/ 200-679-5	0.010
123	N-Methylacetamide	79-16-3/ 201-182-6	0.010	124	N-Pentyl-isopentylphthalate	776297-69-9 /	0.010
125	o-Aminoazotoluene	97-56-3/ 202-591-2	0.010	126	o-Toluidine	95-53-4/ 202-429-0	0.010
127	Pentacosfluorotridecanoic acid	72629-94-8/ 276-745-2	0.010	128	Pentalead tetraoxide sulphate*	12065-90-8/ 235-067-7	0.001
129	Propylene oxide	75-56-9/ 200-879-2	0.010	130	Pyrochlore, antimony lead yellow*	8012-00-8/ 232-382-1	0.001
131	Silicic acid, barium salt, lead- doped*	68784-75-8/ 272-271-5	0.001	132	Silicic acid, lead salt*	11120-22-2/ 234-363-3	0.001
133	Sulfurous acid, lead salt, dibasic*	62229-08-7/ 263-467-1	0.001	134	Tetraethyllead*	78-00-2/ 201-075-4	0.001
135	Tetralead trioxide sulphate*	12202-17-4/ 235-380-9	0.001	136	Tricosfluorododecanoic acid	307-55-1/ 206-203-2	0.010
137	Trilead bis(carbonate)dihydroxide*	1319-46-6/ 215-290-6	0.001	138	Trilead dioxide phosphonate*	12141-20-7/ 235-262-2	0.001

Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 20, 2013

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TEST REPORT
REVISED
Report No. : MAN:HL:1048005563-2
DATE : 07th August, 2019

No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
139	4-Nonylphenol, branched and linear, ethoxylated	-	0.010	140	Ammoniumpentadecafluorooctanoate (APFO)	3825-26-1/ 223-320-4	0.010
141	Cadmium	7440-43-9/ 231-152-8	0.001	142	Cadmium oxide*	1306-19-0/ 215-146-2	0.001
143	Di-n-pentyl phthalate	131-18-0/ 205-017-9	0.010	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1/ 206-397-9	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 16, 2013							
145	Cadmium sulphide*	1308-23-6/ 215-147-8	0.001	148	Dihexyl phthalate	84-75-3/ 201-559-5	0.010
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-59-0/ 209-358-4	0.010	149	Disodium 4-amino-3-[[4'-[[2,4-diaminophenyl]azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7/ 217-710-3	0.010
149	Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7/ 202-506-9	0.010	150	Lead di(acetate)*	301-04-2/ 206-104-4	0.001
151	Trixylyl phosphate	25155-23-1/ 246-677-8	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 16, 2014							
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4/ 271-093-5	0.010	153	Cadmium chloride*	10108-64-2/ 233-296-7	0.001
154	Sodium perborate; perboric acid, sodium salt*	- / 234-390-0; 239-172-9	0.001	155	Sodium peroxometaborate*	7632-04-4/ 231-556-4	0.001
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 17, 2014							
156	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7 / 223-346-6	0.010	157	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1 / 247-384-8	0.010
158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate; DOTE	15571-58-1 / 239-622-4	0.010	159	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[[2-ethylhexyl]oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	0.010
160	Cadmium fluoride*	7790-79-6 / 232-222-0	0.001	161	Cadmium sulphate*	10124-36-4; 31119-53-6 / 233-331-6	0.001
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 15, 2015							
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5; 68648-93-1/ 271-094-0; 272-013-1	0.010	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] (covering any of the individual isomers of [1] and [2] or any combination thereof)	-	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Dec 17, 2015,							

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Consumer and Retail, Testing Laboratory, Plot no. 21, Sector 3, IMT Manesar, Gurgaon District, Haryana- 122050 (India) | (+91-124 679 7600)

Report No. : MAN:HL:1048005563-2
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No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
164	1,3-propanesultone	1120-71-4 / 214-317-9	0.010	165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3884-99-1 / 223-383-8	0.010
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3 / 253-037-1	0.010	167	Nitrobenzene	98-95-3 / 202-716-0	0.010
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluorononanoic acid and its sodium and ammonium salts)	375-95-1; 21049-39-8; 4149-60-4 / 206-801-3	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 20, 2016							
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8 / 200-028-5	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jan 12, 2017							
170	4,4'-Isopropylidenediphenol (Bisphenol A)	80-05-7 / 201-245-8	0.010	171	4-Heptylphenol, branched and linear	-	0.010
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salt	335-76-2; 3830-45-3; 3108-42-7 / 206-400-3; -; 221-470-5	0.010	173	p-(1,1-dimethylpropyl)phenol	80-46-6 / 201-280-9	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jul 7, 2017							
174	Perfluorohexane-1-sulphonic acid and its salts	- / -	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jan 15, 2018							
175	1, 6, 7, 8, 9, 14, 15, 16, 17, 17, 18, 18-Dodecachloropentacyclo[12.2.1.1 ^{6,9} .0.2.13.05,10]octadeca-7,15-diene ("Dechlorane Plus™) [covering any of its individual anti- and isomers or any combination thereof]	- / -	0.010	176	Benzo[a]anthracene	56-55-3 / 200-280-6	0.010
177	Cadmium nitrate*	10325-94-7 / 233-710-6	0.001	178	Cadmium carbonate*	513-78-0 / 208-168-9	0.001
179	Cadmium hydroxide*	21041-95-2 / 244-168-5	0.001	180	Chrysene	218-01-9 / 205-923-4	0.010
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	- / -	0.010				
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 27, 2018							
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (TMA)	552-30-7 / 209-008-0	0.010	183	Benzo[ghi]perylene	191-24-2 / 205-883-8	0.010

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Report No. : MAN:HL:1048005563-2
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No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
184	Decamethylcyclopentasiloxane (D6)	541-02-6 / 208-764-9	0.010	185	Dicyclohexyl phthalate (DCHP)	84-61-7 / 201-545-9	0.010
186	Disodium octaborate*	12008-41-2 / 234-541-0	0.001	187	Dodecamethylcyclohexasiloxane (D6)	540-97-8 / 208-762-8	0.010
188	Ethylenediamine (EDA)	107-15-3 / 203-468-6	0.010	189	Lead	7439-92-1 / 231-100-4	0.001
190	Octamethylcyclotetrasiloxane (D4)	556-87-2 / 209-136-7	0.010	191	Terphenyl, hydrogenated	61788-32-7 / 262-967-7	0.010
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jan 15, 2019							
192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6 / 401-720-1	0.010	193	Benzo[k]fluoranthene	207-08-9 / 205-916-6	0.010
194	Fluoranthene	206-44-0 / 205-912-4	0.010	195	Phenanthrene	85-01-8 / 201-581-5	0.010
196	Pyrene	129-00-0 / 204-927-3	0.010	197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	15087-24-8 / 239-139-9	0.010

Note: Above all testing has been performed as per client request.

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Sample As Received



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