RASHMI GROUP

TRANSPORTING WATER ACROSS THE CIVILIZATIONS

RASHMI METALIKS LIMITED

DUCTILE IRON PIPES

MR. SAJJAN KUMAR PATWARI
(GROUP CHAIRMAN)

"Rashmi Group envisions a future of innovation, sustainability, and global collaboration. Together, we lead with purpose, pioneering solutions that enrich lives and inspire progress for generations to come."

Rashmi Group stands as a prominent Business Conglomerate in India, recognized for its expansive operations. Pioneering the integration of Iron & Steel Products, Cement, Power, and Ferro Alloys, the group is under the astute guidance of Mr. Sajjan Kumar Patwari along with his three sons - Mr. Sunil Kumar Patwari, Mr. Sanjib Kumar Patwari, and Mr. Sanjay Kumar Patwari.

Strategically headquartered in Kolkata, the group maintains its operational footprint through strategically positioned manufacturing facilities in Kharagpur and Jhargram. The product portfolio boasts a diverse array, encompassing DI Pipes and Fittings, TMT Bars, Pig Iron, Wire Rods, MS Billets, Sponge Iron, Sinter, Ferro Alloys, Pellets, Cement, Nitrile Gloves, Seamless Pipes & Tubes, Digital Networking Devices, and Dredging solutions.

RASHMI METALIKS LIMITED

INDIA'S LARGEST DUCTILE IRON PIPES AND FITTINGS MANUFACTURER

Rashmi Metaliks Limited is a name synonymous with reliability & quality in Eastern India's iron & steel manufacturing industry. It is one of the flagship companies of Rashmi Group, incorporated in the year 2004 in West Bengal. We have a State-Of-The-Art Integrated Steel manufacturing facility comprised of Pellet, Sinter, Pig iron, Sponge Iron, Ductile Iron Pipe and Fittings, Billet, TMT & Wire Rod.

Rashmi Metaliks is one of the leading manufacturers of DI Pipes & Fittings in India. We have a substantial number of jointing options with various internal and external coating types when it comes to fittings. Since its inception, Rashmi Metaliks has been expanding at an unbeatable CAGR of 62%. We have upgraded our production to 7,70,000 Metric Tonnes of DI Pipes & 26,000 Metric Tonnes of DI Fittings annually.

Today, Rashmi Metaliks stands as the largest manufacturer of DI Pipes & Fittings in India and holds the second position in the globe.

AT RASHMI METALIKS, WE HAVE A CLEAR VISION

- To lead in our fields.
- To prioritize stakeholders' interests.
- To operate in an environmentally friendly manner.

With this focus, we strive to excel and lead in everything we do.

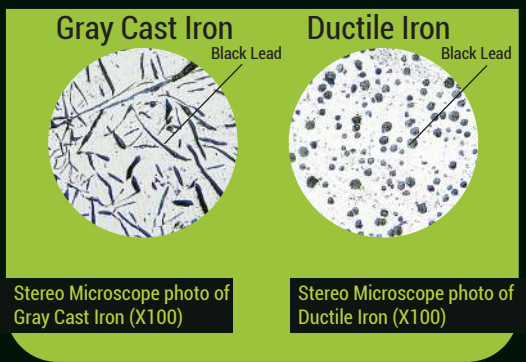
DUCTILE IRON (DI) PIPES

DELIVERING LIFE (WATER) TO DISTANT LANDS

Ductile Iron (DI) Pipes have emerged as the best choice for water supply and pressure sewerage systems worldwide. While having a chemical composition similar to cast iron, ductile iron stands out for its spheroidal microstructure, offering numerous advantages including enhanced pressure-bearing capacity, superior impact resistance, and heightened corrosion resistance. These properties make it highly desirable for a range of applications, contributing to its widespread adoption in various infrastructure projects.

BENEFITS OF USING DUCTILE IRON PIPES

- High Tensile Strength
- Corrosion Resistant
- Flexible and Leak Resistant
- Durable Cement Mortar Lining
- Excellent Workability

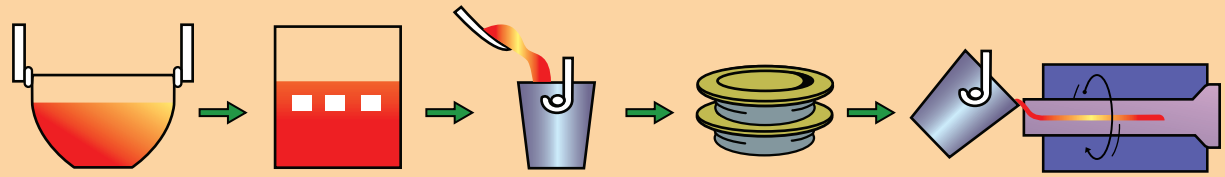


Stereo Microscope photo of Gray Cast Iron (X100)

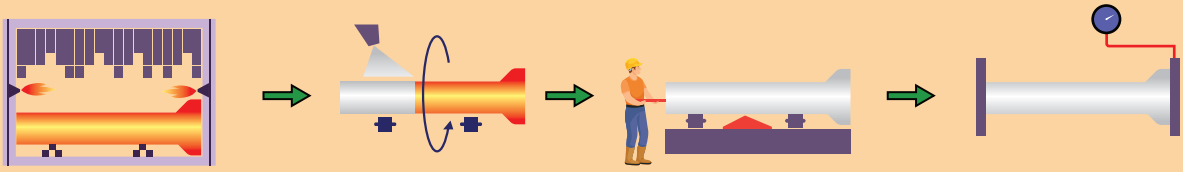
Stereo Microscope photo of Ductile Iron (X100)

DI PIPES MANUFACTURING PROCESS

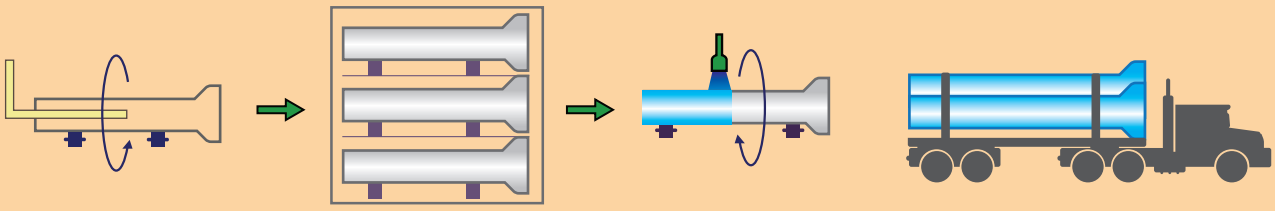
The Ductile Iron Pipes manufactured by RASHMI METALIKS LTD encompass a wide dimension spectrum ranging from DN 80 to DN 1200, boasting a standardized length of 5.5 meters. These pipes adhere to quality benchmarks such as Indian Standards IS 8329 and International Standards ISO 2531, while also holding accreditations from BS EN 545 and BS EN 598. With ISO 9001, SAS 18001, and ISO 14001 certifications in place, the company is equipped to serve both domestic and international markets with superior reliability and quality assurance.



Molten Iron → Induction Furnace → Spheroidizing → Core Making → Centrifugal Casting



Annealing → Zinc Coating → Rounding & Grinding → Hydraulic Testing



Cement Lining → Cultivating → Bitumen/FBE/PU Coating → Packing & Despatch

INSPIRED BY QUALITY

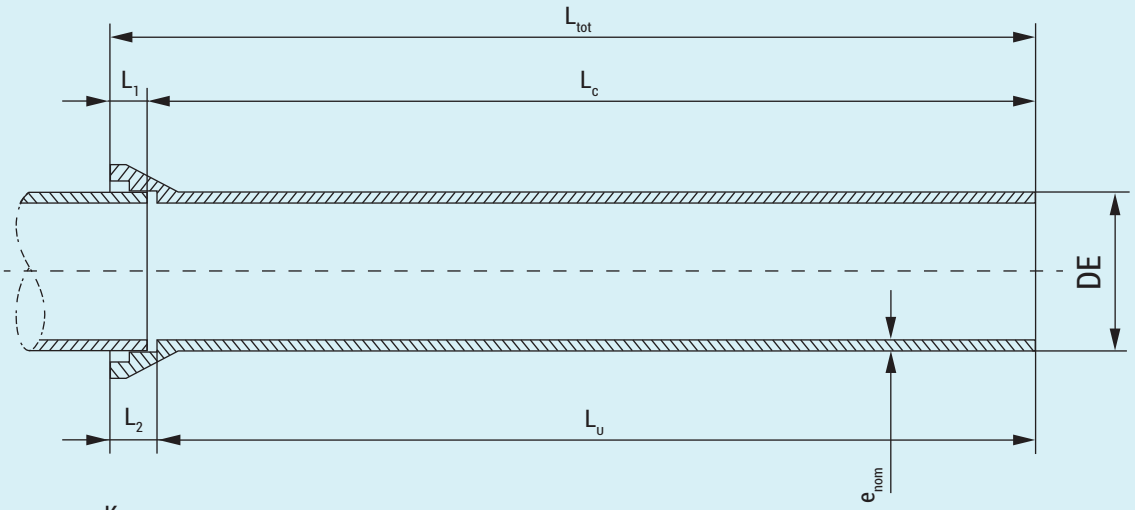
Mechanical Properties of DI Pipes by Rashmi Metaliks Limited	
Mechanical Properties	Values
Tensile Strength	Min. 4,200 Kg/cm2 or 420 MPA
Yield Strength	3,000 Kg/cm2 or 300 MPA
Minimum Elongation	10% (upto DN 1000 mm)
Modulus of Elasticity	"1.62 x 106 - 1.70 x 106 Kg/cm2 or 162,000 - 170,000 MPA"
Hardness	Max. 230 BHN
Density	7,050 Kg per cubic meter
Coefficient of Thermal Expansion	11.5 x 10-6 per degree celsius (°C) (for temperature range 200°C - 1000°C)
Impact Strength	At Normal Temperature - 7 ft-lb (minimium) & At Low temperature - 3 ft-lb (minimum)

Angular Deflection of DI Pipes by Rashmi Metaliks Limited	
Diameter Range (DN)	**Angular Deflection**
DN 80 - DN 150	5°
DN 200 - DN 300	5°
DN 300 - DN 600	3°
DN 700 - DN 800	2°
DN 900 - DN 1000	1.5°
DN 1100 - DN 1200	1°

HIGH-TECH IN-HOUSE PERFORMANCE TEST FACILITY

PUSH-ON JOINTS

DIMENSION DETAILS



Key
OL = overall length in meters
DOS = depth of socket in meters
L_u = OL - DOS; standardized length in meters

e = nominal wall thickness in mm
DE = nominal external diameter of spigot in mm

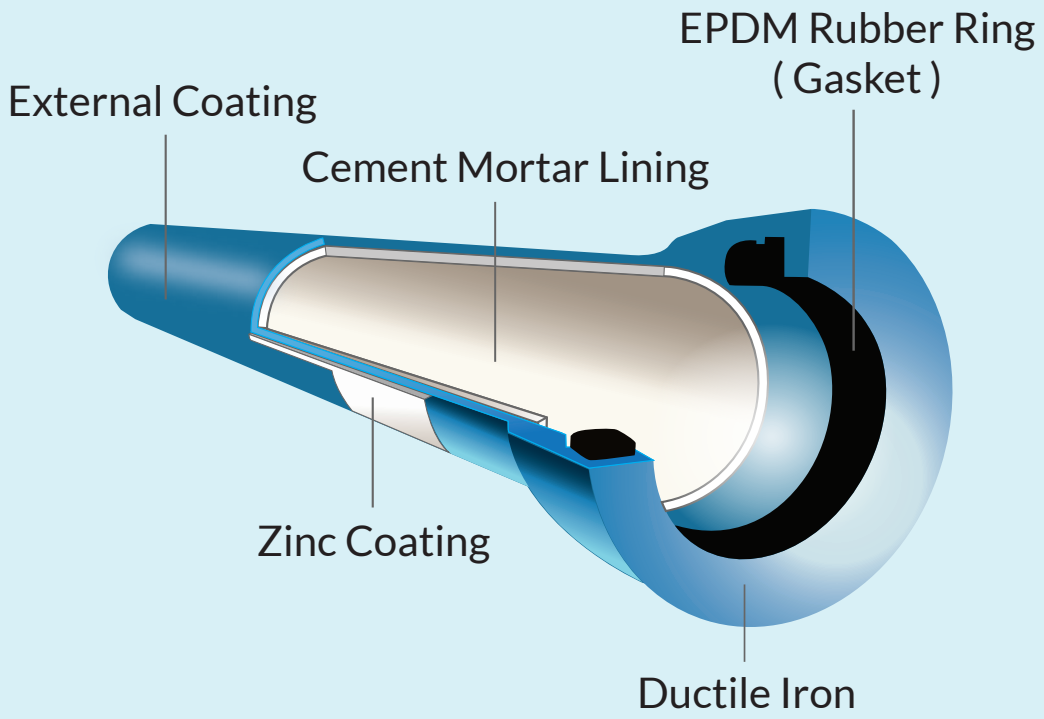
NOMINAL WALL THICKNESS CHART FOR VARIOUS CLASSES OF DI PIPES PUSH ON JOINT

Nominal Diameter	External Diameter		Nominal Pipe Wall Thickness, e (mm), Various Classes of Pipes								
DN (mm)	DE (mm)	Limit Deviation (mm)	C 25	C 30	C 40	C 50	C 64	C 100	As Per BS EN 598 (Presure Pipe)	K7	K9
80	98	+1/-2.7			4.4	4.4	4.4	4.8	4.8	5.0	6.0
100	118	+1/-2.8			4.4	4.4	4.4	5.5	4.8	5.0	6.0
125	144	+1/-2.8			4.5	4.5	4.8	6.5	4.8	5.0	6.0
150	170	+1/-2.9			4.5	4.5	5.3	7.4	4.8	5.0	6.0
200	222	+1/-3.0			4.7	5.4	6.5	9.2	4.9	5.0	6.3
250	274	+1/-3.1			5.5	6.4	7.8	11.1	5.3	5.3	6.8
300	326	+1/-3.3		5.1	6.2	7.4	8.9	12.9	5.6	5.6	7.2
350	378	+1/-3.4	5.1	6.3	7.1	8.4	10.2	14.8	6.0	6.0	7.7
400	429	+1/-3.5	5.5	6.5	7.8	9.3	11.3	16.5	6.3	6.3	8.1
450	480	+1/-3.6	6.1	6.9	8.6	10.3	12.6	18.4	6.7	6.6	8.6
500	532	+1/-3.8	6.5	7.5	9.3	11.2	13.7	20.2	7.0	7.0	9.0
600	635	+1/-4.0	7.6	8.7	10.9	13.1	16.1	23.8	7.7	7.7	9.9
700	738	+1/-4.3	8.8	9.9	12.4	15.0	18.5	27.5	9.6	8.4	10.8
750	790	+1								8.8	11.3
800	842	+1/-4.5	9.6	11.1	14.0	16.9	21.0		10.4	9.1	11.7
900	945	+1/-4.8	10.6	12.3	15.5	18.8	23.4		11.2	9.8	12.6
1000	1048	+ 1/-5.0	11.6	13.4	17.1	20.7			12.0	10.5	13.5
1100	1152	+ 1/-6.0	12.6	14.6	18.6	22.6			14.4	11.2	14.4
1200	1255	+ 1/-6.2	13.6	15.8	20.2	24.5			15.3	11.9	15.3

TECHNICAL SPECIFICATIONS

Product	Ductile Iron (DI) Pipes suitable for Push-on-Joints*
Size Range	DN 80 to DN 1200
Class of DI Pipes	C20, C25, C30, C40, C50, C64, C100, PP, K-7 & K-9
Standard Length (in Meters)	5.5
Internal Linings	Cement Mortar Lining of OPC/BFSC / SRC / HAC Cement Mortar Lining with Epoxy Seal Coat Cement Mortar Lining with Bituminous Seal Coat
External Coating – 1	Zinc Coating (130 gm/m2 or 200 gm/m2 or 400 gm/m2) Alloy of Zinc & Aluminium (ZnAl) with minimum mass of 400 gm/m2
External Coating - 2	Bitumen Coating Blue / Red Epoxy Polyurethane Coating
Outside OnSite Protection	Polyethylene Sleeving
Coating of Joint Area	Bitumen / Epoxy as per customer requirement
Conforming Specifications	EN 545:2010 / EN 545:2006 ISO 2531:2009 / ISO 2531:1998 EN 598:2007 / ISO 7186:2011 IS 8329 : 2000

* RML also provides customize pipe joint design suitable for Restrained/Anchor Joints as per customer requirement.



ADVANTAGE OF DUCTILE IRON PIPES

- High corrosion resistance after suitable protection
- Excellent hydraulic flow
- High tensile strength
- Good elastic modulus and excellent ductility
- Suitable for high stress applications subjected to pressure surge
- High working pressure compared to other metallic pipes
- Ease of installation
- Long service Life
- Can accommodate ground movement

APPLICATIONS OF DUCTILE IRON PIPES

- Raw and clear water transmission
- Distribution network of potable water
- Water supply for industrial/process plant application
- Ash-Slurry Handling & Disposal system
- Fire-Fighting systems
- Sewerage and waste water main
- Gravity sewerage collection and disposal system
- Storm water drainage piping
- Effluent disposal system for domestic and industrial application
- Piping work inside water and sewerage treatment plants
- Vertical connection to utility and reservoirs
- Piling for ground stabilization
- Protective piping under major carriage-ways
- Irrigation water networks

QUALITY OVER QUANTITY

MANUFACTURING FACILITIES

The cutting-edge, fully integrated facility for the production of Ductile Iron Pipes, Fittings and Pig Iron is situated in Kharagpur, within the vibrant state of West Bengal, adjacent to the bustling Kolkata (Haldia) Sea Port. This Greenfield Project represents a pinnacle of modern engineering and innovation. Its comprehensive manufacturing infrastructure encompasses

- Sintering Plant
- Blast Furnace
- DI Pipe Manufacturing Facility
- Committed Railway Siding
- Pellet Plant
- Captive Power Unit

This manufacturing facility has the capacity to produce DI pipes ranging from DN 80 to DN 1200, with an annual capacity of 7,70,000 metric tons and DI Fittings with an annual capacity of 26,000 metric tons. Aligned with its commitment to delivering high-quality pipes and fittings, Rashmi Group consistently invests in cutting-edge testing and monitoring equipment.

QUALITY MEASURES

RASHMI METALIKS follows stringent quality parameters at its manufacturing unit, guaranteeing top-notch products for its clients. Rigorous quality assessments are done at each phase of the manufacturing process, ensuring compliance with global standards. The manufacturing facility or plant operates its Blast Furnace Manufacturing unit (MBF), ensuring a consistent supply of raw materials to the casting unit. Furthermore, the facility boasts OHSAS 18001 and ISO 14001:2004 certifications, backed by cutting-edge pollution control systems, making it environmentally sustainable.

QUALITY INSPECTION


Carbon Equivalent


Chemical Analysis


Microstructure Analysis


Temperature Control


Thickness Control


Ring Test


Zinc Coating Mass


Hydraulic Testing Machine


Cement Lining Thickness


Bitumen Coating Thickness


Spigot Outer Diameter


Socket Inner Diameter


Tensile And Elongation


Hardness Testing


Impact Resistance

LININGS & COATINGS

Internal Linings

Cement Mortar Lining: Reinforces the internal surface and provides corrosion resistance.

Bituminous Seal Coats: Enhances the pipe resistance to moisture and environmental elements.

Internal Polyurethane Coating: Guards against abrasion, chemicals, and various operating conditions.

External Coatings

Zinc Coating: Provides effective corrosion resistance, safeguarding the pipes from environmental factors.

ZnAl Coating: A robust barrier against corrosion and offers enhanced durability, even in challenging conditions.

Bitumen Coating: A protective layer that shields against moisture and external elements.

Blue, Black and Red Epoxy Coatings: Colour coatings aid in easy identification and differentiation of pipes.

External Polyurethane Coating: Offers protection against abrasion, chemicals, and various environmental stresses.

PIPE STORAGE

GENERAL RECOMMENDATIONS

- The storage area must be flat. The ground must not be marshy or unstable and it must corrosive material.
- On arrival in storage area the goods must he inspected and if there is any damage (degradation of internal and external coating), it must be repaired before going into stock
- The pipes must be stocked in the respective stakes according to diameter in accordance with a stock plan.
- It is always advisable to protect coating from the effects of weathering and prolonged exposure in the sun.
- Use shaped hooks covered with special protection of plastic material or, rubber, to avoid any damage to the internal coating of pipes. Wooden spacers (timber, wedges etc...) must be strong enough and of good quality.
- Precaution must be taken when the pipes have special coating.

Typical Ground Conditions	Soil Corrosivity	Protection System
• Natural soils with resistivity above 2500 ohm.cm • Natural soils with resistivity between 1500 and 2500 ohm.cm without water table.	Non Aggressive	Zinc & Bitumen
• Natural soil with resistivity between 1500 and 2500 ohm.cm with seasonal water table or permanent waterlogging. • Natural soils with resistivity between 750 and 1500 ohm.cm without water table.	Aggressive	Zinc & Bitumen Plus PE Sleeving
• Natural peaty soils • Natural soils containing coal, ironstone or shale without water table • Natural soils with pH range 5 <pH<6 without water table • Made up ground containing clinker, brick, flints and other materials likely to cause mechanical damage without water table	Aggressive	Zinc & Bitumen Plus PE Sleeving Plus Imported Backfill
• Natural soils with resistivity below 750 ohm.cm • Natural soils with resistivity below I 500 ohm.cm with sesonal water table or permanent waterlogging • Natural soils containing coal, ironstone or shale with seasonal water table or permanent waterlogging • Natural soils with pH<5 • Natural soils with pH range 5 <pH <6 with seasonal water table or permanent waterlogging • Made up ground with light chemical contaminations e.g. refuse sites, farmyard waste • Stray electrical currents e.g. close proximity to cathodically protected pipelines and DC traction systems	Highly Aggressive	Zinc & Bitumen Plus Tape Wrap 25mm Overlap
• Made up ground containing clinker, brick, flints and other materials likely to cause mechanical damage with seasonal water table or permanent waterlogging • Made up ground with heavy chemical contaminations, e.g. disused gas plants, industria sites, mines, chemical plants • Tidal waters e.g estuaries, shorelines	Highly Aggressive	Zinc & Bitumen Plus Tape Wrap 55% Overlap

WHY SELECT DUCTILE IRON PIPE

Attributes	uPVC Pipe	HDPE Pipe	DI Pipe	GI Pipe
Type of Pipe	Rigid	Flexible	Rigid	Rigid
Available Length	6m or 12m	6m or 12m rolls upto 15m	5.5 m or 6m	6m
Tensile Strength	7,000 psi	3,500 psi	60,000 psi	40,000 psi
Pressure Rating	6, 8, 10, 12	2.55 to 16.3	upto 100 bars	Class-B: 30 at test and 20 at working: Class-C: 50 at test and 30 at working
Hydraulic Efficiency (Hazen's Roughness Coefficient)	145	145	140	100
Jointing process	Fast	Slower	Fast	Fast
Flexibility of joints	Limited	High	"Can take up to 5 degrees of deflection"	Can take up to 2.5 degree of deflection
Corrosion resistance	Corrosion resistant	Corrosion resistant	Corrosion resistant	Susceptible to corrosion in long run
Life (Years)	50 yrs	50 yrs	Upto 100 yrs	30 yrs
Damage during laying	Moderate	Moderate	Least	High
Storage Requirement	To be stored under covered space. Pipe becomes brittle if exposed to Sun for long	Can be stored anywhere	Can be stored anywhere	Can be stored anywhere
Bedding Requirement	Sand bedding is required to avoid deflection of pipe	Excavated material can be refilled after removal of hard sharp edge material	Excavated material can be refilled after removal of hard sharp edge material	Excavated material can be refilled after removal of hard sharp edge material
Requirement of special equipment for laying and jointing	Not required	Requires sophisticated moulding equipment for butt fusion	Not required	Not required
Thermal Expansion	Yes	Yes	No	No

QUALITY CERTIFICATES

bsi.

Kitemark™ Certificate

This is to certify that: Rashmi Metaliks Limited (DIP Division)
Vill-Gopinathpur
PO-Changual,Kharagpur,
Paschim Medinipur
West Bengal
721301
India

Holds Certificate Number: KM 793698

In respect of:

BS ISO 2531
Ductile iron pipes, fittings, accessories and their joints for water applications

This issues the right and licence to use the Kitemark in accordance with the Kitemark Terms and Conditions governing the use of the Kitemark, as may be updated from time to time by BSI Assurance UK Ltd (the "Conditions"). All defined terms in this Certificate shall have the same meaning as in the Conditions.

The use of the Kitemark is authorized in respect of the Product(s) detailed on this Certificate provided at or from the above address.

For and on behalf of BSI: Shahm Barhom, Group Product Certification Director

First Issued: 2023-09-28 Effective Date: 2023-09-28
Latest Issue: 2023-09-28 Expiry Date: 2026-08-23

Page: 1 of 7

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Kitemark™ Certificate

This is to certify that: Rashmi Metaliks Limited (DIP Division)
Vill-Gopinathpur
PO-Changual,Kharagpur,
Paschim Medinipur
West Bengal
721301
India

Holds Certificate Number: KM 793696

In respect of:

BS EN 545
Ductile iron pipes, fittings, accessories and their joints for water pipelines

This issues the right and licence to use the Kitemark in accordance with the Kitemark Terms and Conditions governing the use of the Kitemark, as may be updated from time to time by BSI Assurance UK Ltd (the "Conditions"). All defined terms in this Certificate shall have the same meaning as in the Conditions.

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To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated online.
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A member of BSI Group of Companies.

National Accreditation Board for Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

RASHMI METALIKS LIMITED (DI PIPE DIVISION)
QUALITY CONTROL LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

NH-06,VILL-GOKULPUR P.O SHYAMRAIPUR, KHARAGPUR, MEDINIPUR WEST, WEST BENGAL, INDIA

in the field of

TESTING

Certificate Number: TC-8668

Issue Date: 16/12/2022 Valid Until: 15/12/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : Rashmi Metaliks Limited

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that: Rashmi Metaliks Limited
Premlata Building, 6th Floor
39, Shakespeare Sarani
Kolkata 700 017
West Bengal
India

Holds Certificate No: **EMS 620622**

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

The Manufacture of Various Grades and Sizes of Ductile Iron Pipes for Different Application.

For and on behalf of BSI: Theuns Kotze, Managing Director Assurance - IMETA

Original Registration Date: 2015-01-05 Effective Date: 2023-12-31
Latest Revision Date: 2023-11-27 Expiry Date: 2026-12-30

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Certificate of Registration

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM - ISO 45001:2018

This is to certify that: Rashmi Metaliks Limited
Premlata Building, 6th Floor
39, Shakespeare Sarani
Kolkata 700 017
West Bengal
India

Holds Certificate No: **OHS 620627**

and operates an Occupational Health and Safety Management System which complies with the requirements of ISO 45001:2018 for the following scope:

The Manufacture and Supply of Various Grades and Sizes of Ductile Iron Pipes for Different Application.

[Previously certified to BS OHSAS 18001:2007 since 06-04-2015]

For and on behalf of BSI: Theuns Kotze, Managing Director Assurance - IMETA

Original Registration Date: 2020-12-07 Effective Date: 2024-02-05
Latest Revision Date: 2024-02-05 Expiry Date: 2027-02-04

Page: 1 of 2

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Further clarifications regarding the scope of this certificate and the applicability of ISO 45001:2018 requirements may be obtained by consulting the organization.
This certificate is valid only if provided original copies are in complete set.
Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

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Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: Rashmi Metaliks Limited
Premlata Building, 6th Floor
39, Shakespeare Sarani
Kolkata 700 017
West Bengal
India

Holds Certificate No: FM 578917

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The Design & Development, Manufacture and Supply of Various Grades and Sizes of Ductile Iron Pipes for Different Applications.

For and on behalf of BSI: Theuns Kotze, Managing Director Assurance - IMETA

Original Registration Date: 2011-09-07 Effective Date: 2023-08-24
Latest Revision Date: 2023-07-14 Expiry Date: 2026-08-23

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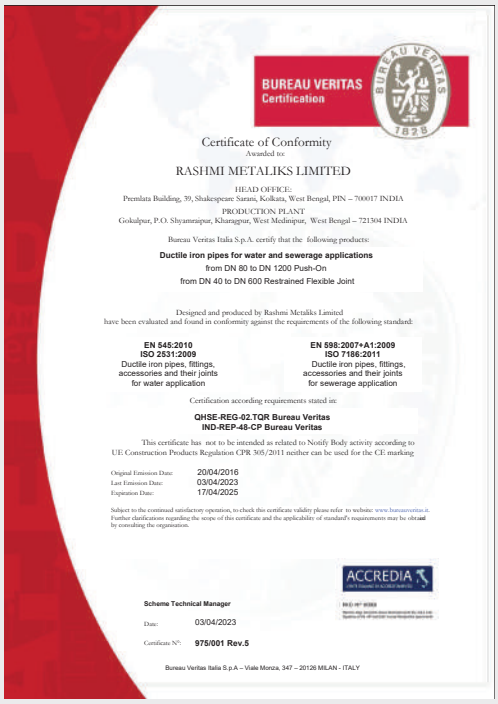

BUREAU VERITAS Certification

Certificate of Conformity

Awarded to:

RASHMI METALIKS LIMITED

HEAD OFFICE:
Premlata Building, 39, Shakespeare Sarani, Kolkata, West Bengal, PIN – 700017 INDIA

PRODUCTION PLANT
Gokulpur, P.O. Shyamraipur, Kharagpur, West Medinipur, West Bengal – 721304 INDIA

Bureau Veritas Italia S.p.A. certify that the following products:

Ductile iron pipes for water and sewerage applications
from DN 80 to DN 1200 Push-On
from DN 40 to DN 600 Restrained Flexible Joint

Designed and produced by Rashmi Metaliks Limited
have been evaluated and found in conformity against the requirements of the following standard:

EN 545:2010
ISO 2531:2009
Ductile iron pipes, fittings, accessories and their joints for water application

EN 598:2007+A1:2009
ISO 7186:2011
Ductile iron pipes, fittings, accessories and their joints for sewerage application

Certification according requirements stated in:

QHSE-REG-02.TQR Bureau Veritas
IND-REP-48-CP Bureau Veritas

This certificate has not to be intended as related to Notify Body activity according to UE Construction Products Regulation CPR 305/2011 neither can be used for the CE marking

Original Emission Date: 20/04/2016
Last Emission Date: 03/04/2023
Expiration Date: 17/04/2025

Subject to the continued satisfactory operation, to check this certificate validity please refer to website: www.bureauveritas.it.
Further clarifications regarding the scope of this certificate and the applicability of standard's requirements may be obtained by consulting the organisation.

ACCREDIA

Scheme Technical Manager

Date: 03/04/2023

Certificate N°: **975/001 Rev.5**

Bureau Veritas Italia S.p.A – Viale Monza, 347 – 20126 MILAN - ITALY

BUREAU VERITAS Certification

Certificate of Conformity

Awarded to:

RASHMI METALIKS LIMITED

HEAD OFFICE:
Premlata Building, 39, Shakespeare Sarani, Kolkata, West Bengal, PIN-700017 INDIA

PRODUCTION PLANT
Gokulpur, P.O. Shyamraipur, Kharagpur, West Medinipur, West Bengal-721304 INDIA

Bureau Veritas Italia S.p.A. certify that the following products:

Ductile iron pipes for water and sewerage applications
from DN 80 to DN 1200

Designed and produced by Rashmi Metaliks Limited
have been evaluated and found in conformity against the requirements of the following standard:

EN 545:2006
ISO 2531:1998
Ductile iron pipes, fittings, accessories and their joints for water application

EN 598:2007+A1:2009
ISO 7186:2011
Ductile iron pipes, fittings, accessories and their joints for sewerage application

Certification according requirements stated in:

RG-01-03 ACCREDIA Rev.01
QHSE-REG-02.TQR Bureau Veritas Rev.03
IND-REP-48-CP Bureau Veritas Rev.00

This certificate has not to be intended as related to Notify Body activity according to UE Construction Products Regulation CPR 305/2011 neither can be used for the CE marking

Original Emission Date: 20/04/2016
Last Emission Date: 18/04/2022
Expiration Date: 17/04/2025

Subject to the continued satisfactory operation, to check this certificate validity please refer to website bureauveritas.it
Further clarifications regarding the scope of this certificate and the applicability of standard's requirements may be obtained by consulting the organisation.

Firmato digitalmente da
Fabio Pes
Scheme Technical Manager

Date: 18/04/2022

Certificate N°: 975/002 Rev.4

Bureau Veritas Italia S.p.A – Viale Monza, 347 – 20126, MILAN - ITALY

BUREAU VERITAS Certification

Certificate of Conformity

Awarded to:

RASHMI METALIKS LIMITED

HEAD OFFICE:
Premlata Building, 39, Shakespeare Sarani, Kolkata, West Bengal, PIN-700017 INDIA

PRODUCTION PLANT:
Gokulpur, P.O. Shyamraipur, Kharagpur, West Medinipur, West Bengal-721304 INDIA

Bureau Veritas Italia S.p.A. certify that the process of application of coatings for the following products:

Ductile iron pipes
for water and sewerage applications
from DN 80 to DN 1200

Designed and produced by Rashmi Metaliks Limited
have been evaluated and found in conformity against the requirement listed in Annex 1/1 of this certificate:

Certification according requirements stated in:

RG-01-03 ACCREDIA Rev.01
QHSE-REG-02.TQR Bureau Veritas Rev.03
IND-REP-48-CP Bureau Veritas Rev.00

Original Emission Date: 07/11/2017
Last Emission Date: 18/04/2022
Expiration Date: 17/04/2025

Subject to the continued satisfactory operation, to check this certificate validity please refer to website bureauveritas.it
Further clarifications regarding the scope of this certificate and the applicability of standard's requirements may be obtained by consulting the organisation.

Firmato digitalmente da
Fabio Pes
Scheme Technical Manager

Date: 18/04/2022

Certificate N°: 1053/001 Rev.2

Bureau Veritas Italia S.p.A – Viale Monza, 347 – 20126, MILAN – ITALY Pag. 1/2

WRAS APPROVED MATERIAL

Approval Number 2109552
Test Report: J-00392658 & J-00392659

Water Regulations Approval Scheme Ltd,
Unit 13,
Willow Road,
Pen y Fan Industrial Estate,
Crumlin,
Gwent,
NP11 4EG

26th October 2021

Waheguru Rubber Manufacturing Co. (P) Ltd
732/A, Delhi Road,
Post Office - Baluma'ik,
Dist. - Hooghly,
West Bengal - 712223,
India

WATER REGULATIONS APPROVAL SCHEME LTD. (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

RUBBERS- ETHYLENE PROPYLENE DIENE MONOMER (EPDM) - MATERIAL ONLY. **5365**

'S/EP-50, S/EP-60, S/EP-70 & S/EP-80'.

Black coloured, compression moulded EPDM materials with a shore hardness of between 50A & 80A. Tested in-radius size 1.05mm.

For use with water up to 65°C.

APPROVAL NUMBER: 2109552
APPROVAL HOLDER: WAHEGURU RUBBER MANUFACTURING CO. (P) LTD

The Scheme reserves the right to review approval.
Approval 2109552 is valid between September 2021 and September 2026

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: www.wrasapprovals.co.uk/approvals-directory/

Yours Faithfully

Ian Hughes
WRAS Approvals Manager

WRAS APPROVED MATERIAL

Approval Number 2104522
Test Report: MA7254/E

Water Regulations Advisory Scheme Ltd,
Unit 13,
Willow Road,
Pen y Fan Industrial Estate,
Crumlin,
Gwent,
NP11 4EG

29th April 2021

Rashmi Metaliks Ltd.
Gokulpur,
PO Shyamraipur,
Kharagpur,
Dist. West Midnapore,
West Bengal,
721301.
India

WATER REGULATIONS ADVISORY SCHEME LTD. (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

COATINGS, PAINTS & LININGS- FACTORY APPLIED PIPE & FITTINGS COATINGS. **5030**

'Parasakti Sulphate Resisting Portland Cement'.

Factory applied, grey coloured Sulphate Resistant cement mortar.

Mix cement, sand and water in a 1: 1.5: 0.5 ratio. Cure for 28 days@5°C.

For use with water up to 65°C.

This material is only approved for the mixing and curing conditions that appear on the approval. If the mixing and/or curing conditions are varied from those specified on the approval then the materials are not covered by the scope of the approval.

APPROVAL NUMBER: 2104522
APPROVAL HOLDER: RASHMI METALIKS LTD.

The Scheme reserves the right to review approval.
Approval 2104522 is valid between April 2021 and April 2026

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: www.wrasapprovals.co.uk/approvals-directory/

Yours Faithfully

Ian Hughes
WRAS Approvals Manager

WRAS APPROVED MATERIAL

Approval Number: 1907537
Test Report: MA6661/H

Water Regulations Advisory Scheme Ltd,
Unit 13,
Willow Road,
Pen y Fan Industrial Estate,
Crumlin,
Gwent,
NP11 4EG

3rd September 2019

Rashmi Metaliks Ltd,
Gokulpur,
PO Shyamraipur,
Kharagpur,
Dist. West Midnapore,
West Bengal,
India 721 301

WATER REGULATIONS ADVISORY SCHEME LTD. (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

COATINGS, PAINTS & LININGS - FACTORY APPLIED PIPE & FITTINGS COATINGS. **5030**

'Rashmi Blast Furnace Slag Cement Mortar'. Factory applied, grey coloured, blast furnace slag cement. Mix cement, sand & water in a mass ratio of 1:1.5:0.6. Cure for 120 minutes@50°C. For use with water up to 65°C.

This material is only approved for the mixing and curing conditions that appear on the approval. If the mixing and/or curing conditions are varied from those specified on the approval then the materials are not covered by the scope of the approval.

APPROVAL NUMBER: 1907537
APPROVAL HOLDER: RASHMI METALIKS LTD.

The Scheme reserves the right to review approval.
Approval 1907537 is valid between July 2019 and July 2024

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: www.wras.co.uk/directory

Yours faithfully

Jason Furnival
Approvals & Enquiries Manager
Water Regulations Advisory Scheme

AMONG OUR SATISFIED CUSTOMERS

INTERNATIONAL PRESENCE

SAUDI ARABIA	COLOMBIA
BAHRAIN	DOMINICAN REPUBLIC
UAE	ECUADOR
JORDAN	PERU
KUWAIT	NICARAGUA
LEBANON	PANAMA
SYRIA	PARAGUAY
GHANA	CANARY ISLAND
MAURITANIA	GEORGIA
SOUTH AFRICA	BHUTAN
TANZANIA	NEPAL
ALGERIA	SINGAPORE
ANGOLA	SRI LANKA
CHILE	VIETNAM

TOP EPC CUSTOMERS / CONTRACTORS - INDIA

WPIL LIMITED
MEGHA ENGINEERING & INFRASTRUCTURES LIMITED
LARSEN & TOUBRO LIMITED
KRISHNA CONSTRUCTION COMPANY
JMC PROJECTS (INDIA) LIMITED
VISHNU PRAKASH R PUNGLIA LIMITED
RAJGRIHI SINGH CONSTRUCTIONS PRIVATE LIMITED
SRI SCL INFRATECH LIMITED
KEC INTERNATIONAL LTD
ZUBERI ENGINEERING CONSTRUCTION PVT LTD
ZETWERK MANUFACTURING BUSINESS PVT LTD

INDIAN STATE	NAME OF AUTHORITY
State of Jammu & Kashmir (India)	• PHED, Jammu
	• PHED, Srinagar
State of Himachal Pradesh (India)	• Irrigation & Flood Control Department (Through Contractors)
State of Panjab (India)	• Punjab Water Supply & Sewerage Board (Through Contractors)
State of Delhi (India)	• Delhi Jal Board (Through Contractor)
	• New Delhi Municipal Corporation (Through Contractor)
	• Delhi Development Authority (Through Contractor)
State of Haryana (India)	• Director of Supplies & Disposals, Haryana
	• Haryana State Industrial & Infrastructure Development Corporation Ltd., Haryana
	• PHED, Haryana
	• Haryana Urban Development Authority
	• Haryana State Roads And Bridges Development Corporation Ltd.
State of Uttar Pradesh (India)	• Uttar Pradesh Jal Nigam
State of Rajasthan (India)	• PHED, Rajasthan
	• RIICO (Through Contractors)
	• Jaipur Development Authority (Through Contractors)
	• Urban Improvement Trust (Through Contractors)
State of Madhya Pradesh (India)	• Madhya Pradesh Laghu Udyog Nigam Limited, Bhopal
	• Bhopal Municipal Corporation (Through Contractors)
	• Gwalior Municipal Corporation (Through Contractors)
	• PHED Dept., Madhya Pradesh (Through Contractors)
State of Gujarat (India)	• Ahmedabad Municipal Corporation
	• Surat Municipal Corporation (Bid under evaluation)
	• Gujarat Water Supply & Sewerage Board (Through Contractors)
State of Maharashtra (India)	• Mumbai Municipal Corporation (Through Contractor)
	• Maharashtra Jivan Pradhikaran
	• Pune Municipal Corporation (Through Contractor)
	• Nagar Palika Nigam, Mumbai (Through Contractor)
	• Pimpri Chinchwad Municipal Corporation (Through Contractor)
	• Indapur Municipal Council (Through Contractor)
	• Dahanu Municipal Council (Through Contractor)
	• Hingoli Municipal Corporation (Through Contractor)
State of Jharkhand (India)	• Drinking Water Supply & Sanitation Department, Jharkhand (Through Contractors)
State of Bihar (India)	• Bihar Urban Infrastructure Development Corporation (Through Contractors)
	• PHED, Bihar (Through Contractors)
State of Chhattisgarh (India)	• PHED, Chhattisgarh (Through Contractors)
	• Raipur Municipal Corporation (Through Contractors)
	• Rajnandgaon Municipal Corporation (Through Contractors)
	• Ambikapur Municipal Council (Through Contractors)
State of Odisha (India)	• PHE , Odisha
	• Rural Water Supply & Sewerage Division, Govt. of Odisha (Through Contractors)
State of West Bengal (India)	• Kolkata Metropolitan Development Authority
	• Kolkata Municipal Corporation
	• Purulia Municipality
	• Raghunathpur Municipality
	• Haldia Port Trust
	• IIT Kharagpur
	• Suri Municipality
	• North Barrackpore Municipality
	• Basishat Municipality
	• South Dum Dum Municipality
	• Egra Municipality
	• Dankuni Municipality
	• Barrackpore Municipality
	• Balurghat Municipality
	• Hooghly-Chinsurah Municipality
State of Andhra Pradesh (India)	• Hyderabad Metropolitan Water Supply & Sewerage Board, Hyderabad
	• Rural Water Supply & Sanitation Dept., Govt. of A.P. (Through Contractor)
	• Panchayet Raj Health Engineering Department, Govt. of A.P. (Through Contractor)
State of Karnataka (India)	• Karnataka Urban Water Supply & Drainage Board, Karnataka (Through Contractor)
	• Karnataka Rural Water Supply & Sanitation Department, Karnataka (Through Contractor)
State of Tamilnadu (India)	• Tamilnadu Water Supply & Drainage Board (Through Contractor)
	• Chennai Metropolitan Water Supply & Sewerage Board
State of Kerala (India)	• Kerala Water Authority (Through Contractor)

Find us on

CONTACT US

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HEAD OFFICE: 9, A.J.C. Bose Road, Ideal Centre, 1st Floor, Kolkata – 700 017

TEL.: (033) 22894255/56, ***FAX***: 2289-4254

FACTORY: Gokulpur, ***P. O.***: Shyamraipur, ***Dist.***: West Midnapur (W. B.), INDIA. ***TEL.***: (03222) 234533

For Domestic Inquires: info@rashmigroup.com, salesgovt@rashmigroup.com

For Export Enquires: exportsales@rashmigroup.com

Website: www.rashmigroup.com. ***CIN No.***: U27109WB2004PLC097737

INTERNATIONAL SALES OFFICES

United Arab Emirates
RASHMI PIPE & FITTING FZCO
Cluster R, Jumeirah Lake Towers (JLT), Dubai, UAE

United Kingdom
RASHMI METALIKS UK LTD.
3rd Floor, 5 Lloyd's Avenue, EC3N 3AE London, UK

Singapore
RASHMI AQUA PTE LTD.
137 Telok Ayer Street,#05-02 Singapore (068602)