

INDION® Waste Water Treatment and Zero Liquid Discharge

Increasing water shortage, cost of water and deteriorating quality are the drivers for process and sanitary waste recovery in the ceramic industry. Newer regulations that also mandate zero liquid discharge necessitates the use of proven waste water treatment, recycle and zero liquid discharge technologies. Ion Exchange helps you to effectively and economically solve water scarcity by offering state-of-the-art effluent treatment plants integrated with zero liquid discharge processes.

Industries that have installed our effluent treatment, recycle & zero liquid discharge systems have been able to reduce their fresh water intake, maximise product recovery, minimise waste and meet stringent compliance norms. Our solutions include advanced biological processes, membrane systems and multi-effect evaporators.

Our state-of-the-art manufacturing facilities are ISO 9001, ISO 14001 & ISO 45001 certified.

To the best of our knowledge the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice. Please contact our regional / branch offices for current product specifications.

INDION and INDIFLOC are the registered trademarks of Ion Exchange (India) Limited.

Services

Our complete service support system helps maximise overall production and performance levels by ensuring continuous, optimum performance of your water and waste water treatment plants.

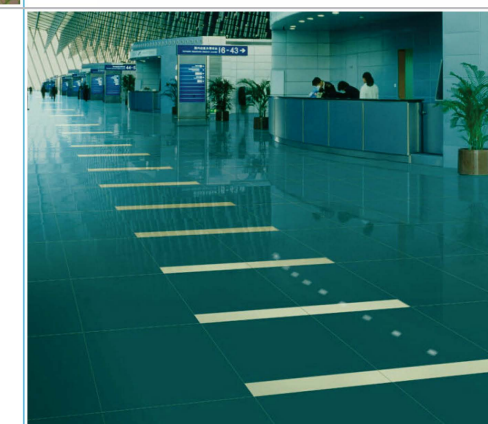
Through O&M contracts, we undertake total responsibility for operation and maintenance, supply of required water quality and quantity on a continuous basis. We carry out technical audits, study plant operations & design parameters to provide solutions for improving operational aspects, optimising & reducing operating costs and improving treated water quality.

We also undertake upgrading/retrofitting of plants for efficiency improvement on BOO & lease.

24/7
service



Tiling solutions, that help
deliver **tiles** with **style**



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Overseas - Hamriyah | Kingdom of Bahrain | Indonesia | Bangladesh
All India Service and Dealer Network

www.ionindia.com

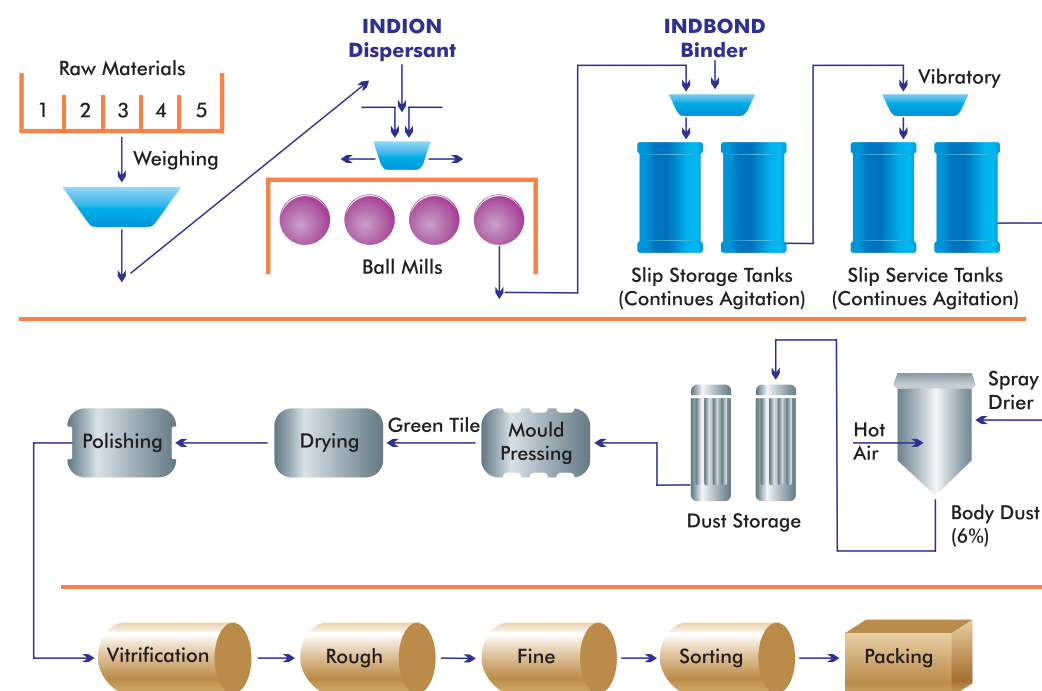


Ion Exchange leverages over five decades of pioneering specialisation in process chemicals, water and environment management to offer solutions to the ceramic industry.

Driven by commitment to customer satisfaction, we offer process chemicals – INDBOND Binders and INDION Dispersants, water/waste water treatment and recycle along with zero liquid discharge solutions, that improve the manufacturing process and quality of tiles. To meet the growing demand, we have set-up a manufacturing plant in Morbi, Gujarat.



Flow chart of vitrified manufacturing process indicating application of INDBOND Binder and INDION® Dispersant



INDBOND Binder

The raw material used in manufacturing tiles is mostly inorganic. Hence, green and dry strength of tiles is a cause for concern, particularly in the manufacturing of vitrified/granite tiles. INDBOND Binder is an organic water soluble binder which is effective in increasing the strength in green, dried and fired ceramic materials. It also increases the edge strength of the tiles.

- Excellent mechanical strength at low dosage
- High efficiency for binding calcium ions, in particular
- No adverse effect on the rheological properties of ceramic slip

INDION® Dispersant

INDION Dispersant is a water soluble organic deflocculant used in the wet grinding process to effectively disperse solid raw material, including clays.

- Excellent dispersion of insoluble inorganic salts and soil particles
- Higher slurry density and lower viscosity during wet grinding
- Reduces water and energy consumption of the process

INDION® Water Treatment Pretreatment

At the pretreatment stage, our INDION Lamella Clarifier & INDION Ultra High Rate Clarifier are the first choice for reducing high turbidity and suspended solids in the source water. These space saving, efficient systems reduce high suspended solids load to acceptable levels as feed to make-up water treatment systems.

Process Water Treatment

INDION® Ultra Filtration

- Removal of virtually all particulate matter, suspended solids, colloids and organics
- Pretreatment for reverse osmosis plant for reduction in Silt Density Index (SDI)

INDION® Reverse Osmosis

Modular systems are designed to treat brackish water and make it suitable for ion exchange demineralisation polishing units.

- Salt rejection ranges from 90 to 98% depending on feed water composition
- Product recovery 50 to 80% based on waste water composition

INDION® Water Softeners

We offer complete range of packaged water softeners for removal of hardness from water.

INDION® Demineralisation

Advanced technologies in demineralisation plants:

The layered bed anion unit is a single vessel system with layers of two resins, INDION LBA-WB on top of INDION LBA-SB with downflow service. The layered bed system provides high chemical efficiency of a two-bed weak based anion and strong based anion system in a single vessel, saving considerable initial as well as recurring cost.

Speciality Resins & Chemicals

INDION® Ion Exchange Resins

Ion Exchange's INDION brand of resins is a market leader with a global presence. We offer a complete range of gel, isoporous, controlled particle size, macroporous cation & anion exchange resins for water treatment as well as speciality applications.

INDION® Cooling Water Treatment Chemicals

Cooling towers should run at maximum efficiency with low operating cost. Our state-of-the-art technology for cooling water treatment chemicals ensures:

- Prevention of corrosion, scale fouling and microbial growth in cooling water systems
- Consistency in heat transfer at the metal surface

INDFLOC® Flocculants

Ion Exchange's flocculants are polyacrylamides with medium to high molecular weight, which are water soluble and available in powder cationic, anionic and non-ionic form.

HYDRAMEM® Reverse Osmosis Membranes

We offer complete range of best-in class reverse osmosis membranes, manufactured in state-of-the-art facility for low pressure and brackish water application in industry, municipal, commercial and residential sectors.

Range:
8040 | 4040 | 4021 | 4014 | 2540 | 1812 | 1810

We also offer range of INDION antiscalants and cleaners.