



Offering Customised Solutions

Binders, Coatings, Consumables for Foundry,
Powdered and Liquid Phenolic Resins
for other Industries



forace polymers™

We Serve



Foundry Industry (Ferrous)	:	Binders, Coatings and Consumables
Non Ferrous Industry	:	Binders, Diecoats, Fluxes and Consumables
Refractory Industry	:	Powdered and Liquid Phenolic Resins
Abrasive Industry	:	Powdered and Liquid Phenolic Resins
Friction Industry	:	Straight and Substituted Phenolics
Rubber Industry	:	Straight and Substituted Phenolics
Bulb Sealing Compound	:	Solid Phenolics
Resin Felt	:	Powdered Phenolics (Fire Retardant Grade)
Resin for Floral Foam	:	Liquid Phenolics
Filter Paper	:	Solid & Liquid Phenolics
Scrub Pads	:	Liquid Phenolics
Glass Fibre Reinforced Composite Panels	:	Liquid Phenolics

The Forace Advantage

Designing products to suit individual customer needs

Consistent quality

Prompt delivery

Wide network of field representatives – prompt response, easy accessibility



Vision

Continuous striving for leadership in the field of speciality resins and foundry chemicals.

Striving

A state of mind throughout the organisation, never being satisfied with the status quo and constantly striving to be better and to do new things.

Leadership

Leadership in the eyes of our customers through our thoughts, behaviour, actions and achievements. Build stronger relationships with our existing customers and reach out to new customers through innovation.

Mission

To provide value to our customers and business partners with quality products, innovative solutions and responsive services.

Values

We believe, our customers define the success of our organisation. The customers are always at the top of our mind in everything we do.

Our people are at the heart of the organisation, and we give them the freedom to achieve through clarity of direction and free flow of information.

We have a responsibility to make a positive contribution to the society by our business interfaces.



Profile

Located at the foothills of the Shivalik ranges in Uttarakhand, the Himalayan state of India, Forace Polymers was founded in the year 1980 by a team of technocrats comprising the late Mr S K Garg (M. Tech), Mr S C Gupta (Chemical Engineer) and Mr S G Joshi (Business Executive) with the objective of filling the gap of a reliable source of resins in North India. Since then, Forace Polymers has made exponential growth and has achieved a prominent place in the industry. It has grown into one of the largest producers of phenolic resins in India, exporting products to number of countries.

The guiding principles have been customised approach, high standards of quality, prompt service and competitive prices. The company enjoys the status of an ancillary to a power equipment manufacturing major of India, i.e., Bharat Heavy Electricals Ltd. (BHEL).

It has been accorded the status of EXPORT HOUSE by the Government of India.



Facilities

Equipped with state-of-the-art manufacturing facilities with automated monitoring of process parameters and cutting edge technology, company has an installed capacity of 60000 MT of binders in wide range.

The binders produced by company have applications across the industry ranging from Foundry to Refractory, Abrasive, Friction, Rubber, Bulb Sealing Compound, Resin Felt, Floral Foam, Glass Fibre Reinforced Laminate, Scrub Pads, Filter paper and many more.

Company is producing full range of coatings for Foundries with most modern equipments, having installed capacity of 30000 MT per annum.

Resin Coated Sand plant put up with latest technology has installed capacity of 36000 MT per annum.

Company also serves Non-Ferrous consumables with a 2400 MT per annum plant producing Non-Ferrous consumables.

Company has Coating & Consumables plant at South Africa having capacity 1200 MT per annum.

In addition, the business associates of forace have privilege access to pool of Technical Experts, who are ever ready to assist in finding solutions promptly and effectively.



Quality

We are an ISO 9001-2008 certified company, committed to supply quality products, strictly as per customer requirements. We have a fully-equipped laboratory to ensure strict quality control at all stages from raw material to finished product, ensuring complete traceability.

Our products are being used in majority of sophisticated applications like automotive, power, railways, refractory, defence, etc. and qualify the stringent quality requirements.





Technological Development and Services

Our steady growth story is a result of in-house research & development. A dedicated Research team is continuously engaged in developing new products and upgrading the formulations, keeping abreast with changes taking place in technologies. We have been recognised as IN-HOUSE - R&D Unit by the Government of India.

Our main Forte is to offer customized solutions for challenging applications based on our customer's requirements. Appreciating that every industry has unique requirements varying on account of material inputs, process, location and atmospheric parameters, we develop products to meet the specifics of the customer.

Our field representatives keep track of the performance of each supply and forward the feedback to our technical experts for making necessary modifications if required. Our valued customers are thus assured of suitable products and are freed of the trouble of making adjustments at workplace.





Product List

Foundry Industry

Binders

- Shell resin system (solid / liquid / Regular / NF)
- Two part no bake acid cured system
- Two part no bake ester set system (Regular/AC/FL)
- Three part no bake alkyd
- Phenolic urethane self setting system (Steel, Iron, NF)
- Phenolic urethane gassing cold box (Steel, Iron, NF)
- Hot box system for ferrous & non ferrous
- Furan no bake (steel, Sg, Ci, Non Ferrous)
- CO₂ cured phenolic
- Inorganic no bake system

Coatings

- Zircon spirit/water based
- Graphite spirit/water based
- Alumino-silicate mix refractory spirit/water based
- Magnesite spirit based
- Graphite water base for metallic trough
- Bismuth base coating
- Coating for lost foam process
- Tellurium base coating
- Sulphur blocking coating

Other Foundry Consumables

- Thinners
- Pattern cleaning agents
- Release agents
 - Release agent for green sand mould
 - Release agent for alkaline phenolic no bake system
 - Release agent for cold box
 - Parting agent for shell (water / solvent based)
 - Aluminium based release for no bake system



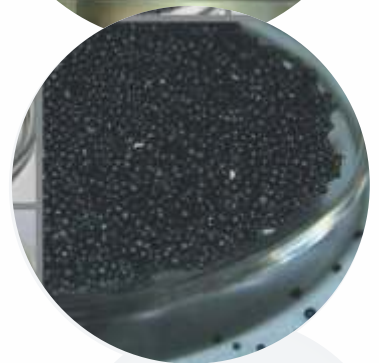
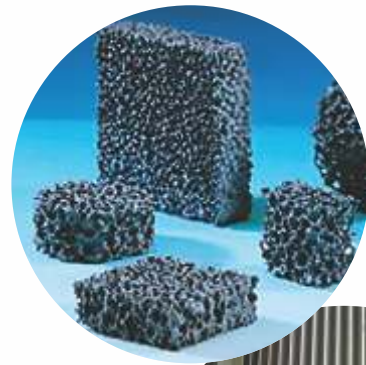
- Core joining paste
 - Hot to hot
 - Cold to cold
 - Cold to cold (ultra fast)
- Collapsible agent for silicate
- Mould sealing rope
- Surface hardner for green sand mould
- Sealing compound for mould and core
- Silicon carbide, Zirconia foam filters
- Ceramic sand
- Chromite sand
- Slag coagulant (perlite ore)
- Sand additives (Sphereox) of Chesapeake Specialty Products, USA
- Furnance & refractory cleansing fluxes of ASI International, USA
 - Redux EF40L briquettes
 - Redux EF40 bricks
- SPHERE-o-DOX G - High Potency Post-Inoculant of ASI International, USA
- Resulf-30-IE –Inoculant Enhancer of ASI International, USA
- Additive for thermal reclamation of alkaline phenolic no bake resins

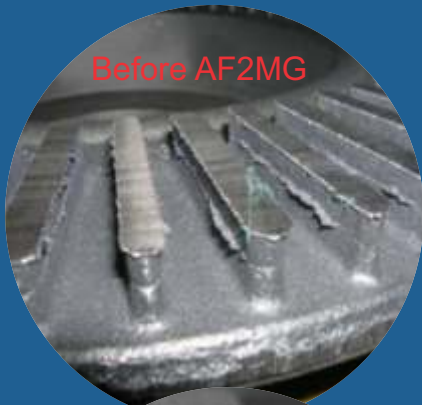
Non Ferrous Industry Consumables

- Powder fluxes
- Die coatings for GDC, LPDC & HPDC
- Granulated flux
- Degassing & Grainrefining tablets
- Refractory shapes
- Special shell sand for non ferrous casting
- Furan resin for non ferrous casting
- Hot box system for non ferrous casting
- Master alloys
- Forace mastic
- Forace modifier
- Silicon carbide foam filter
- Ceramic, Alumina foam filter

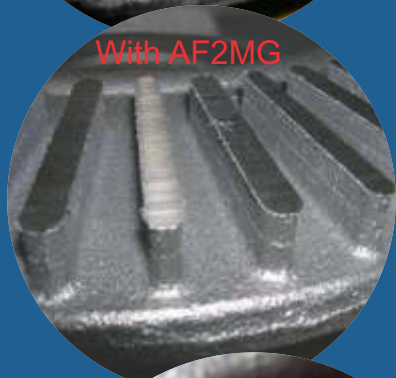
Shell Resin Coated Sand

- Forsand AC (for anti cracking grade)
- Forsand LN (for steel casting with low nitrogen)
- Forsand GP (for heavy section iron casting)
- Forsand NF/AL (for non ferrous casting)





Advance Solutions from John Winter & Co. Ltd. of United Kingdom



ANTI VEINING ADDITIVE (AF 2#, AF2MG, AF6) are powdered sand additives specifically developed to eliminate expansion defects caused by silica sand and eliminate veining even in most severe cases. In certain applications it reduces the use of coating.

AF#2M, AF#2MG and AF6 are powdered sand additives specifically developed to eliminate expansion defects caused by silica sand. These defects are typically found in a wide range of castings such as turbochargers, manifolds, axle housings and pumps when using PUCB binders.



The addition of either grade offers visual traceability through colouring the core either red (AF#2M) or green (AF#2MG, AF6).

Small additions to the core sand of typically 0.5% - 1.0% in case of AF2# and AF2MG and 2-3.5 % in case of AF6 at the sand mixing stage have been proven to eliminate veining, even in the most severe cases.



Apart from the obvious benefits of reducing scrap castings, adding AF#2M, AF#2MG & AF6 at the core manufacture stage will increase flowability of the mixed sand, improve compaction and definition of the core and reduce blowing pressures/times.



In certain applications, reduction of the use of coatings is possible as AF#2M and AF#2MG, AF6 can be used in conjunction with finer sand grades. This reduces the effects of metal penetration, where high levels of veining would be found.

Ceramic Foam Filters from Drache Umwelttechnik GmbH, Germany

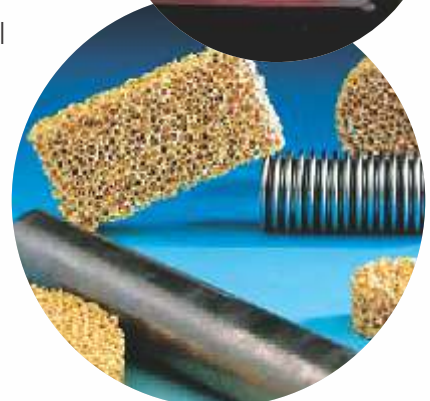
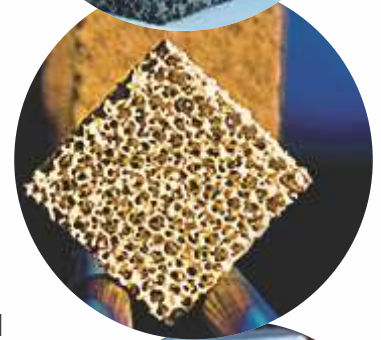
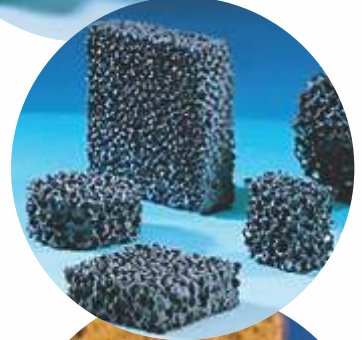
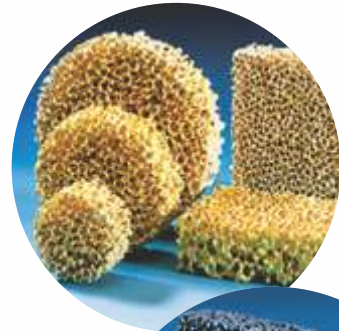
The world's leading manufacturers of Ceramic Foam Filters for molten metal filtration has chosen Forace Polymers as their exclusive partner in India.

Cerazirk ZrO_2 Filter

Cerazirk[®] ZrO_2 ceramic foam filters are used in cast steel, super alloy, cast iron and large iron casting applications. The filter is suitable for all types of steel alloys, as well as nickel-and cobalt-based alloys. The temperature stability of ZrO_2 Cerazirk filters is 1700° C. Because of the excellent thermal and mechanical capacity of the material used on the basis of stabilised ZrO_2 , our proven Cerazirk ZrO_2 filters are also highly suitable for applications in large cast iron with higher casting weights. Due to the excellent chemical resistance of ZrO_2 Cerazirk, this filter can also be used in pouring magnesium and its alloys because of its inertness.

Cerazirk LD Filter

Cerazirk LD – that is the new and highly innovative ceramic foam filter for all types of steel casting. The Cerazirk LD filter has some major advantages over common filtration solutions. Cerazirk LD filters offer an improved filter capacity over ZrO_2 -based filters. Furthermore, the risk of freezing effects at lower casting temperatures is greatly reduced, due to the lower material density of Cerazirk LD filters. Finally, Cerazirk LD filters have an innovative surface coating, which increases the filtration efficiency. The Cerazirk LD filter removes inclusions e.g. Al_2O_3 particles, Al-Mg spinels and FeO particles very efficiently from the melt - much more efficient compared to other filter materials.





Refractory Industry

- Phenolic powdered and liquid resins (Resol and Novolak)

Abrasive Industry

- Powdered and liquid PF resins for bonded abrasives
- PF, UF and alkyd resins for coated abrasives

Friction Industry

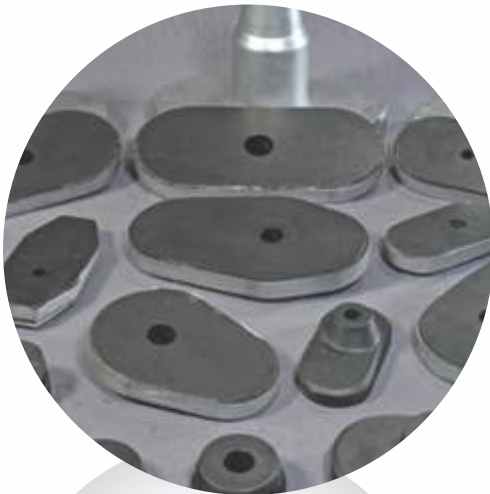
- Straight and substituted phenolics

Rubber Industry

- Straight and substituted phenolics

Bulb Sealing Compound

- Solid phenolics





Resin Felt

- Powdered phenolics
- Powdered phenolics (Fire Retardant Grade)

Resin for Floral Foam

- Liquid phenolics

Filter Paper

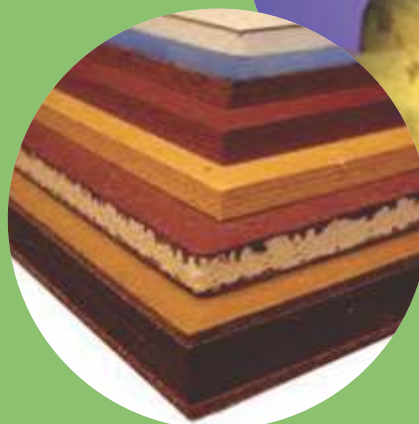
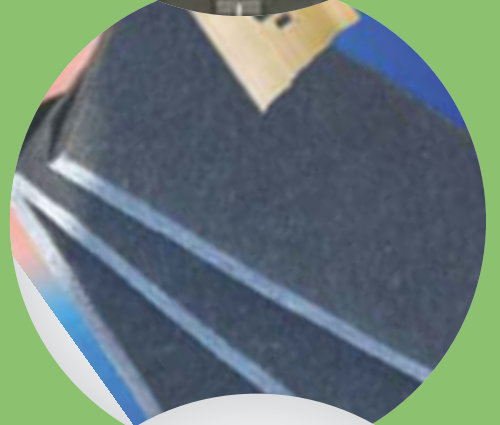
- Solid & liquid phenolics

Scrub Pads

- Liquid phenolics

Glass Fibre Reinforced Composite Panels

- Liquid phenolics



Non Ferrous Industry Consumables

Powder fluxes

FORCOVERALL -11	Covering & drossing	FORCOVERALL -56	Low temperature modifying
FORCOVERALL -5	Superior covering & drossing	FORCOVERALL -57	Recovering of dross
FORCOVERALL -66	Melting flux	FORCOVERALL -88	Reclaiming of chips
FORCOVERALL -65	Sodium free covering & drossing	FORBRAL -2	Furnace cleaning
FORCOVERALL -29	Sodium free covering	FORBRUSS -55	Copper based alloys removing alumina
FORCOVERALL -36	High temp modifying	FORBRUSS -77	For melting of turning / burning for melting of brass scrap
FORFLUX- APC	Anit piping compound		

Die Coatings For Gdc, Lpdc & Hpdc

FORCOAT NF -14 SPL	Insulating water based	FORCOAT NF - ALN	Solvent Aluminium paste
FORCOAT NF -11 RL	Graphite water based	FORCOAT NF - 535	For Thin section Al alloys
FORCOAT NF - GL	Graphite oil based	FORCOAT NF - 536	For Thick section Al alloys
FORCOAT NF -101	Zircon water based	FORCOAT NF - 66	For Superior finish of Al castings
FORCOAT NF - 8420	Plunger lube water base	FORCOAT NF - 6022	Die coat for HPDC
FORCOAT NF - 8790	Plunger lube oil base without graphite oil		

Granulated flux

FORACE GR -2510	Mild exothermic drossing	FORACE GR -2220	Low temperature cleaning
FORACE GR -2516	Covering, drossing and cleaning flux	FORACE GR -2712	High temperature modifying
FORACE GR - 510	Low temperature granulated flux	FORACE GR -2715	Low temperature modifying
FORACE GR -6511	Sodium free drossing	FORACE GR -2815	Grain refining
FORACE GR -6512	Na, Ca free cleaning & drossing	FORACE GR -2002	Fluoride free drossing flux
FORACE GR -2410	Cleaning	FORACE GR -ALMG (60:40)	Multi purpose flux
FORACE GR -88	Furnace cleaning flux	FORACE GR -ALMG (40:60)	Multi purpose flux
FORACE GR -520	Granulated flux	FORMAGREMOVER GR	Magremover granulated flux

Degassing & Grainrefining tablets

FORDEGASSER CF	Chlorine free degassing tablets
FORMAGREMOVER	Magremover tablet
FORGRAIN REFINER 2	Magnesium alloy based only sodium free grain refining by carbon.
FORDEGASSER 200	Degassing maximum scaveining AL Chloride
FORDEGASSER 190	Degassing and Grain refining scaveining gas AL Chloride
FORDEGASSER 5/10/20	Degassing tablet for copper and brass

Master alloys

FORACE ALTIB 5:1	Aluminium titanium boron	FORACE ALTIB 10 %	Aluminium titanium
FORACE ALSR 5 %	Aluminium Strontium	FORACE ALSR 10 %	Aluminium Strontium

Others

FORACOAT NF-LD	Ladle coat	FORCOAT NF-SP	Start UP paste
FORMASTIC	Insulating paste		

Special shell sand for non ferrous casting

This covers range of resin coated sand produced from well graded sand of high refractory, shell resin & several additives to offer excellent collapsibility and reduce decoring time.

Safety, Health and Environment

With strong principles of social commitment embedded within the company, all measures are taken to ensure perfect harmony with the delicate ecology surrounding the plant. As a part of its responsibility, the company has maintained 10,000 green trees surrounding the plant premises. Proper precautions are taken to ensure that there is no adverse impact on natural resources. Adequate standards are followed in handling solvents and hazardous chemicals.

Our technology development team continuously upgrades product formulations with a view to minimise free monomers, BTX solvents, so as to control deterioration of environment at workplace.





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9001 : 2008

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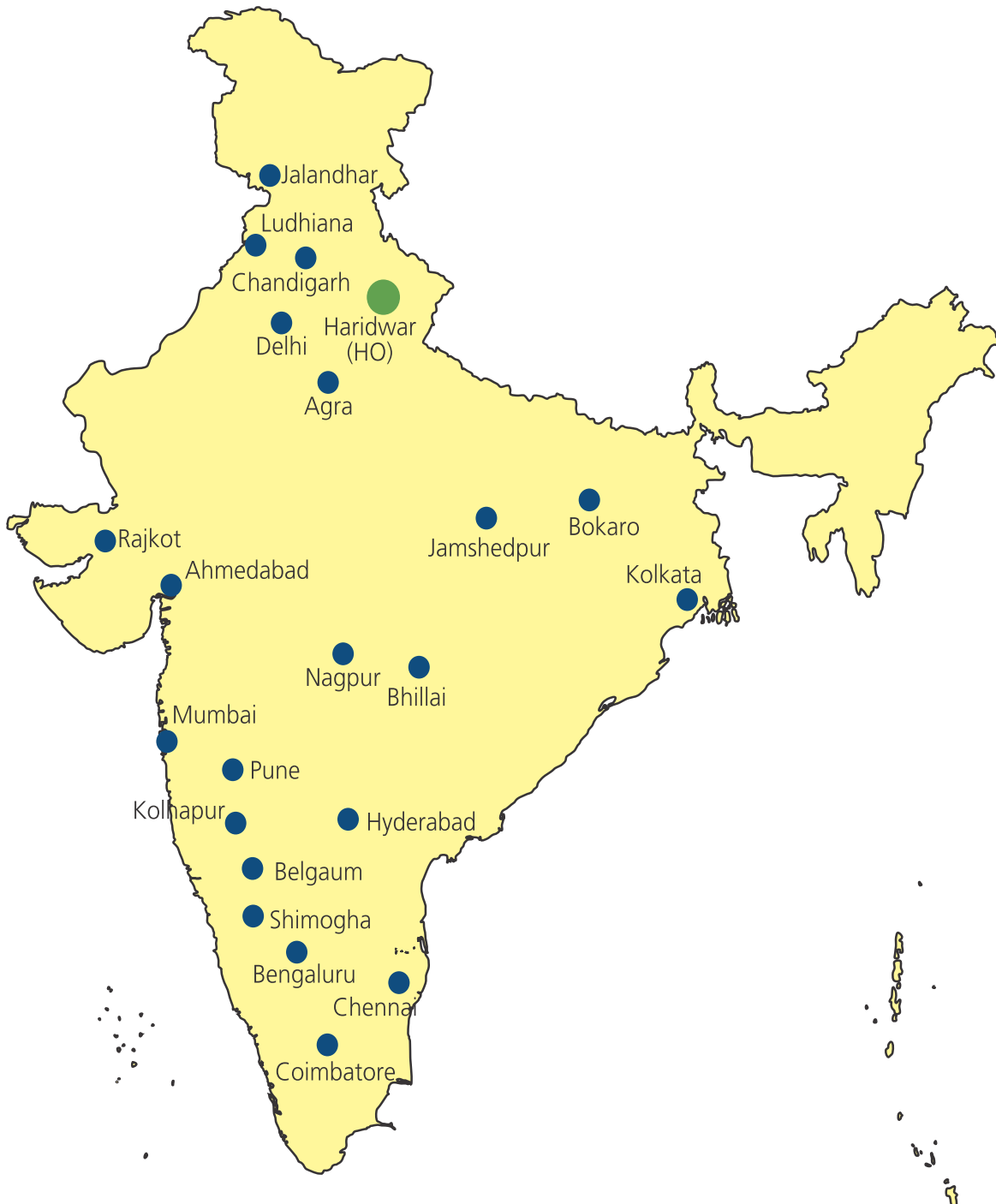
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