Registration. No. DL (DS)-52/MP/2025-26-27, RNI No. 43092/85
Uniting Small Scale Battery Industry on Firm Footing since 1985

BATTERY DIRECTORY

& YEAR BOOK

FORTNIGHTLY ISSUE
16-30 June 2026
(Vol.41, No.12 Published on 26.06.2026)

Uniting Small Scale Battery Industry
41 years of Publication
Since 1985

Contents on page no. 10

बैटरी डायरेक्टरी एंड ईयर बुक

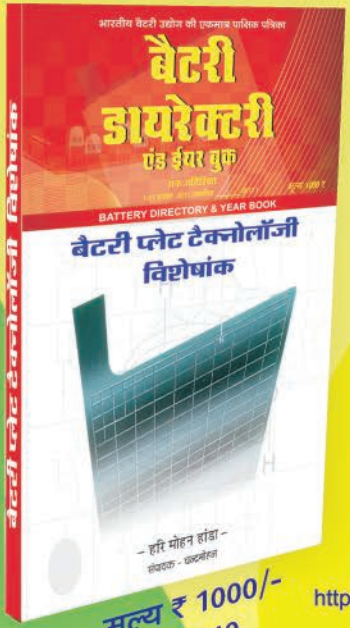
Contents

Contents

लैड रिसाईक्लर्स, बैटरी व बैटरी प्लेट निर्माताओं के लिए उपयोगी पुस्तक

बैटरी प्लेट टैक्नोलॉजी

विशेषांक



मूल्य ₹ 1000/-
पृष्ठ 340

विषय सूची:

लैड एवं लैड एलॉयज़ | लैड ऑक्साईड्स | डिस्टिल्ड वाटर एवं सल्फ्युरिक एसिड | पेस्ट्स एवं पेस्ट मिक्सिंग | प्लेट फॉर्मेशन | सैपरेटर | बैटरी चार्जिंग | बेसिक इलैक्ट्रोकैमिस्ट्री एवं सम्बन्धित तकनीकी प्रकियाएँ | कुशल कार्य संपादन हेतु विशिष्टताएँ ...

विस्तृत अध्यायवार सूची के लिए विज़िट करें
http://www.batterydirectory.co.in/Battery_Plate_Tech.php

शुल्क निम्नलिखित में से किसी भी एकाउंट में जमा करा कर सूचित करें :-

BANK ACCOUNT of BATTERY DIRECTORY AND YEAR BOOK			
BANK NAME	*ACCOUNT NO*	*IFSC CODE*	*BRANCH ADDRESS*
UNION BANK OF INDIA	565101000013133	UBIN0920711	GTB Enclave, NVM, Delhi-110 093
PhonePe / Google Pay / Paytm A/c	CHANDRA MOHAN - Mobile No. 9810268067		

Uniting Small Scale Battery Industry
41 years of Publication
1985 - 2026

बैटरी डायरेक्टरी एंड ईयर बुक

510, जनता फ्लेट्स, जी.टी.बी. एन्क्लेव, दिल्ली-110093
मोबाइल: 9810268067, 9971150801, 9910699538
Email: battdir@gmail.com

www.batterydirectory.co.in | onlinebatterydirectory.com

Contents

बैटरी डायरेक्टरी

एंड ईयर बुक

बार-बार सबस्क्राइब करने से पाएं छुटकारा

बनें लाइफमेम्बर

शुल्क मात्र 10,000 रूपए

ट्रांसफर या पेटीएम करके

बैटरी डायरेक्टरी आजीवन प्राप्त कीजिए।

वार्षिक डायरेक्टरी में आपकी फर्म का विवरण

मुफ्त छपता रहेगा और पाक्षिक व वार्षिक अंक

बराबर मिलते रहेंगे।

शुल्क निम्नलिखित में से किसी भी एकाउंट में जमा करा कर सूचित करें :-

BANK ACCOUNT of BATTERY DIRECTORY AND YEAR BOOK			
BANK NAME	*ACCOUNT NO*	*IFSC CODE*	*BRANCH ADDRESS*
UNION BANK OF INDIA	565101000013133	UBIN0920711	GTB Enclave, NVM, Delhi-110 093
PhonePe / Google Pay / Paytm A/c	CHANDRA MOHAN - Mobile No. 9810268067		

Uniting Small Scale Battery Industry
41 years of Publication
1985 - 2026

बैटरी डायरेक्टरी एंड ईयर बुक

510, जनता फ्लेट्स, जी.टी.बी. एन्क्लेव, दिल्ली-110093

मोबाइलः 9810268067, 9971150801, 9910699538

Email: battdir@gmail.com

www.batterydirectory.co.in | onlinebatterydirectory.com

LEAD-ACID BATTERY HELP LINE...

Why You Need Only LA-POWER Technologies?

'LA-POWER' Technologies provides not just only consultancy, it works as a complete project. So it is lengthy & consumes time to formulate effective solution that you have never seen before. It has a high class operational working system. Before it you know consultancy that a consultant visit out your factory & provides some tips & you have to do all arrangement & practical in his absence. So how you can satisfy?

The Lead-Acid Battery profession is totally different from others. Generally, to manufacture a product is a common work & to sale is difficult, but the Lead-acid battery profession is just inverse proportional to others. Here, to manufacture a best battery is really a challenging task & very few peoples are known better.

We are product & market player & play comprehensive role in lead-acid battery solution. So we are able to provide TQM practices.

It is a systematic magic that provides complete & reliable solution without much spending on men, machineries, money & materials. So, the saving in these resources is definitely first step of your profit and to reduce your battery claim up to aprox. nil is another major profit, which will boost your firm's goodwill along with extra income and off course your firm will be converted from a ordinary goodwill to a quality maker firm.

Yes! It is unbelievable, but 100% truth. Lot of business men are already benefited & enjoying battery profession as a complete professional. And off course you may be next one. It is extract of our more than two decades of vast R & D as "Battery & Indian Atmosphere". You may expect any thing & we promise you, we will fulfill your dreams.

Work Profile: Technical Consultancy in Lead-Acid Battery

Area of Consultancy

- Flooded (Conventional) Battery:
  Antimonial/Selenium-Lead Ultra Low Maintenance 12V/2.5 to 12V/200 AH
- Valve Regulated Lead-Acid Battery (VRLA):
  Calcium-Lead Based 100% Maintenance Free 1 AH to 1000 AH Battery

Type of Battery:

- Automobiles Batteries (Flooded & VRLA)
- Inverter/UPS Batteries (Flooded & VRLA)
- Tubular Batteries(Flooded)
- Solar Batteries (VRLA)
- Electrical Vehicle Batteries (Flooded & VRLA)
- Telecom/Railways Batteries (VRLA)
- Defence Batteries (Flooded)
- Industrial Batteries (Flooded & VRLA)

LA-POWER Differentials:

- Reduces your battery claim up to approximate Nil
- Saving your resources in men, machineries, material & money
- World class product
- One time solution & not need to continue the consultancy

Wonderful Features (Flooded Battery):

- Save lead means save money
- Maintenance free for approximate one year
- High voltages for quick auto cut
- Very fast charging, better during heavy power cut
- Strong deep discharge recovery

- Strong normal & cold cranking power (HRD)
- Very low fuming for safe breathing
- High efficiency, so saving in electric bill
- High retention of charge
- Longest uninterrupted service life cycle
- Slow rate of power falling during life cycle
- Light weight technology & attractive product

Fast Grow-up Advantages (VRLA Battery)

VRLA battery means next generation battery & here, we have one & half decades of vast R & D experience. So a golden opportunity knocks to make your firm as a premier organization:

- Unlimited market opportunity as new product
- Secure from customer handling due to 100% maintenance free
- Excellent profitable opportunity
- Leadership of industry
- High status & dignity

May I Help You?

If you are facing these following troubles, Yes! We Sure Help You!

- Resources:
  a. High quality raw material/components with compatible price
  b. Automatic, reliable & durable modern plant/machines & equipments
  c. Skilled/semi-skilled man power for any section & level
- Plantation:
  a. Plantation/up-gradation of battery complete manufacturing unit
  b. Physical, Chemical & Electrochem state-of-art Laboratory set-up
  c. Plantation of pollution plant
- Training:
  a. Complete know-how to mangt for qualitative production/controlling
  b. Each section complete training for a lay-man to managers
  c. Chemist training as step-by-step, A to Z section testing
  d. Machineries/equipments handling, calibration & trouble shootings etc
- Documentation:
  a. All types of Quality & Quantity formats for each section
  b. Documentation for ISO certification
  c. Charts/boards/indicators etc for best management system

ISO Certification

The concept of ISO certification provides two types of benefit as internal & external:

a. 100% Assistance in ISO certification
b. ISO 9001: 2015, for Quality Management System
c. ISO 14001: 2015, for Environment Management System

LA-POWER Secrets (In-Written Documents)

The secrets can change your professional way, it's extract of one & half decades of vast R & D:

a. Project report
b. Process control procedures
c. Laboratory testing & specifications
d. Format, indicators samples & Trouble shootings

Ravindra S Panwar
Battery Consultant (Technical & TQM)
LA-POWER CONSULTANCY SERVICES
48, Shanti Vihar, Ajabpur Kalan, DEHRADUN-248 121
Ph: 9761482366, 9911313101
E-mail: info.lapower@gmail.com

Knowledge without devotion to God produces hatred.
—Bhagwan Sh. Sathya Sai Baba

BATTERY DIRECTORY & YEAR BOOK

510, Janta Flats, G.T.B. Enclave, Delhi-110093
Tel.: 011 - 22593952, Mobile : 9810268067
email : battdir@gmail.com
Website: www.batterydirectory.co.in
www.onlinebatterydirectory.com

Editor: **Chandra Mohan**
Assistant Editor:
Shekhar Verma
Sub-Editor: **Ekta Verma**
Editorial Advisers:
Dr. R.C. Sharma, Arvind Mohan
Advt. Manager:
Anuradha: 9910699535

Registered with Registrar of Newspapers for India Regd. No. R.N.I. 43092/85

Vol. 41 No. 12, 16-30 June 2026 *(Published on 26.06.2026)* Price: 5/-
Pages: 52 *(Annual Subs. ₹ 650/-)*

Contents

TRIBUTE

SAI SHARNAGATHI

Advertiser's Index

Subscription Rates

w.e.f. 12.02.2024

Annual Subscription *(With Postal Charges)*	₹ 650.00
One Fortnightly Issue	₹ 5.00
Life Membership	₹ 10,000.00

BANK ACCOUNT of **BATTERY DIRECTORY AND YEAR BOOK**

BANK NAME	*A/c*	*ACCOUNT NO*	*IFSC CODE*	*BRANCH ADDRESS*
UNION BANK OF INDIA	**OD**	**565101000013133**	**UBIN0920711**	**GTB Enclave, NVM, Delhi-110 093**
PhonePe, GooglePay Account	**CHANDRA MOHAN - Mobile No. 9810268067**			

BOSS®

Indigenous FRP Lithium Battery Containers

For E-rickshaw, Solar, Inverter, and E-scooter Batteries

An indigenous FRP lithium battery container has been developed in India for use in e-rickshaws, solar systems, inverters, and e-scooters. It is no longer mandatory to use iron containers for assembling lithium batteries for these applications.

The credit for the indigenous manufacturing of the FRP lithium battery container goes to the BOSS Group. A key feature of this container is that even if the lithium cells housed within it catch fire, the container itself does not catch fire; the flames extinguish automatically within 10 to 20 seconds, ensuring the safety of life and property.

The BOSS FRP container is durable, lightweight, and strong. It is water- and corrosion-resistant, protecting the lithium cells in all weather conditions.

Developed over a year and a half

During the development process, the BOSS Group had to modify molds and create new ones multiple times. Expensive fire-retardant chemicals were blended into the container's raw material; bringing this new container to fruition required significant investment and approximately a year and a half of work from the BOSS Group. This new FRP lithium battery container has undergone testing by various lithium battery assemblers and has proven successful. The BOSS FRP container has the potential to eliminate reliance on imports for lithium battery containers. This is the first plant in India dedicated to the production of lithium battery containers within the small-scale battery industry sector.

The BOSS Group has been serving the battery industry for 33 years. In 1993, the group established a factory in Delhi to manufacture PVC separators—specifically, the 'Microplus' brand. Subsequently, in 1997, the BOSS Group achieved the distinction of being the first to manufacture and launch PPCP heat-sealed battery containers in the country. To this day, BOSS containers remain the top choice for battery manufacturers.

In 2001, he gifted the 'PE Separator – M-Arrow' to the small-scale battery industry. This was the country's first PE separator plant in the battery industry sector.

Until now, the BOSS Group was known primarily for PPCP heat-sealed battery containers and M-Arrow PE separators; however, the group's name will now be written in golden letters in the history of the country's small-scale battery industry for introducing the first FRP lithium battery container.

Mr. Satish Mittal, Chairman of the BOSS Group, is not only a successful industrialist but also a philanthropist with deep faith in Lord Shiva. He has been actively contributing to the operations of numerous social organizations.

Battery Directory extends its heartfelt congratulations and best wishes to Mr. Satish Mittal, Chairman of the BOSS Group, on the success of this new product. The manufacturing firm for this product is M.G. Plastic Industries, A-55, Rajasthani Udyog Nagar, Delhi-110033. Phone No.: 011-45282275/762.

Sh. Satish Mittal
Chairman,
BOSS Group

Inspirational Thoughts

✶ If you feel like you are losing everything... remember that trees shed their leaves every year yet remain standing, waiting for better days to arrive; so, in any situation, always feel blessed.

✶ Support and opposition should be directed towards ideas, not individuals. This is because even a good person can hold a wrong idea, and even a bad person can have a correct one.

✶ You cannot go back and change the beginning, but you can start from where you are and change the ending.

– Ajay Gupta,
AK Auto Agency, Mumbai
Forwarded by the President,
Indian Battery and Accessories Industries Welfare Association, Mumbai

Amaron's bid to challenge the 'Red Battery' fails

Calcutta High Court rules in favor of Exide

Two giants of the Indian battery market & their identities

To get to the root of the dispute, we must understand the history and branding strategies of both these companies within the Indian market.

Exide's 'Red' Empire: Exide Industries is a company with a decades-long legacy in India's lead-acid battery sector. For generations, Indian consumers have identified Exide by its distinctive deep 'red' packaging. Upon seeing a red battery in the market, customers instinctively associate it with Exide. Due to this long-standing usage, the color red has become an indelible part of Exide's identity.

Amaron's 'Green' Revolution: On the other hand, when Amara Raja entered the market with the 'Amaron' brand, it broke away from established conventions. It chose the color 'green' for its batteries—a choice that was entirely new to the market at the time. This green identity positioned Amaron as a battery that was youthful, long-lasting, and modern. Both brands successfully dominated significant shares of the market, each defined by its own distinctive color.

The Birth of the Controversy: When Amara Raja Chose the Color 'Red'

The issue arose when Amara Raja Energy & Mobility Limited decided to launch a new battery series in the Indian market. The name of this new brand was 'Elito'.

A Departure from Tradition: Industry

experts were most surprised that Amara Raja did not use its established and successful 'green' color for 'Elito'. Instead, they opted for 'red'—a color strikingly similar to Exide's—and a packaging design of the same style.

The reality of the international market: When the matter reached the Calcutta High Court, a truly shocking fact came to light during the hearing. It was revealed that Amara Raja was selling this very 'Elito' battery in blue packaging in international markets.

The question was this: if the 'Elito' is blue globally, why was its color deliberately changed to red for the Indian launch? This was the very question that sparked the controversy and ultimately worked against Amara Raja.

The Psychology of Branding and Amaron's Old Advertisement

Another interesting twist in this dispute emerged from Amara Raja (Amaron)'s own past. The court also took note of Amara Raja's past conduct.

A few years ago, Amaron ran a highly aggressive advertising campaign. In this campaign, they mocked a 'red' battery to highlight their own 'green' battery as technologically superior and longer-lasting. The red battery was depicted as repeatedly failing and causing frustration for customers.

The court took this fact seriously. It held that this old advertisement clearly demonstrated that Amara Raja was well aware that, in the Indian market, a 'red' battery was synonymous with 'Exide'. Having publicly acknowledged the red color as Exide's identity, they could not now argue in court that the color red held no specific brand value in the market.

Legal Terminology: 'Trade Dress' and 'Passing Off'

To understand this case in depth, we need to grasp two important legal principles upon which the entire lawsuit was based:

Trade Dress: This is a broad component of trademark law. It refers to the 'overall visual appearance' of a product that distinguishes it from other products in the market. It encompasses not just the name, but also elements such as packaging color, design, font style, shape, and layout. Exide claimed that the 'deep red background, white lettering, and the specific font style' constituted its legally protected 'trade dress,' developed through decades of effort.

Secondary Meaning: Under the law, it is generally held that no one has an exclusive right to a color initially. However, when a company uses a specific color and design for such an extended period that customers immediately associate that color with the brand upon seeing it, the color is said to have acquired a 'secondary meaning' (a distinctive identity). Exide's red color had achieved precisely this kind of identity.

Passing Off: This is a legal violation that essentially means "fraudulently selling one's own goods by passing them off as those of another." If a competing company deliberately designs its packaging to resemble that of an established brand—thereby confusing ordinary customers into purchasing it—this is termed 'passing off.' Exide had leveled this serious allegation against Amara Raja.

Court's Observations: Deceptive Similarity

Judges of the Calcutta High Court compared the two products (Exide and Elito) by placing them physically before them. The court examined whether a "purchaser of average intelligence and imperfect recollection" could be misled at a shop.

The court found the following striking similarities, which were deemed 'deceptive similarities':

1. Name Structure: Both 'Exide' and 'Elito' are words composed of five (5) English letters. Both begin with the letter 'E'.

2. Color Palette: The exact same shade of red was used for the background on the packaging of both batteries.

3. Text color: The names of both brands were written in bright white against a red background.

4. The 'Shattered O' design: This was the most significant piece of evidence. Exide's trademark logo features a distinctive design known as the 'Shattered O'. The court clearly observed that Amara Raja had designed the final letter 'O' of 'Elito' with a 'shattered' look that was identical to Exide's.

The court concluded that this could not be a mere coincidence. It was a case of deliberate imitation (bad faith) aimed at unfairly capitalizing on Exide's decades-old, established goodwill.

The question now arises: what impact will this major decision have on the Indian battery market? Will no other company be able to manufacture red batteries anymore? The straightforward answer is that there will be no negative impact on the market, and there is no absolute ban on the use of the color red. Other companies in the market, such as Livguard, also manufacture red batteries; however, their designs, logos, fonts, and overall appearance are completely different from Exide's, ensuring that customers are not confused.

The primary impact of this decision is that it has set a strict legal precedent for the battery and automotive industries. It sends a clear message to brands that while you are free to use any color, you cannot create a "copy" of an established brand.

– Arvind Mohan

When you accept service to humanity as your religion, you start feeling God within yourself, then you do not need to search for God in any temple or mosque.

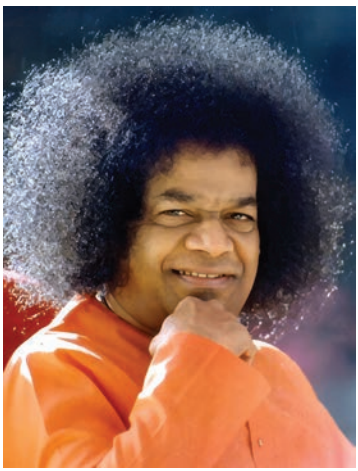
– Bhagwan Shri Sathya Sai Baba

International Battery Conference to be held in Udaipur

It is being organized by FISSBA

The Federation of Indian Small Scale Associations (FISSBA) is set to organize an International Battery Conference in Udaipur, Rajasthan, on August 8, 2026.

The Rajasthan Small Scale Battery Trade Association (RSBTA), a key member of the federation, will host the event. More than 150 members of the national core committee will attend the conference, which will also see the participation of renowned international battery experts. Discussions at the conference will focus on the future of energy storage, recycling regulations, and new manufacturing setups. ❑



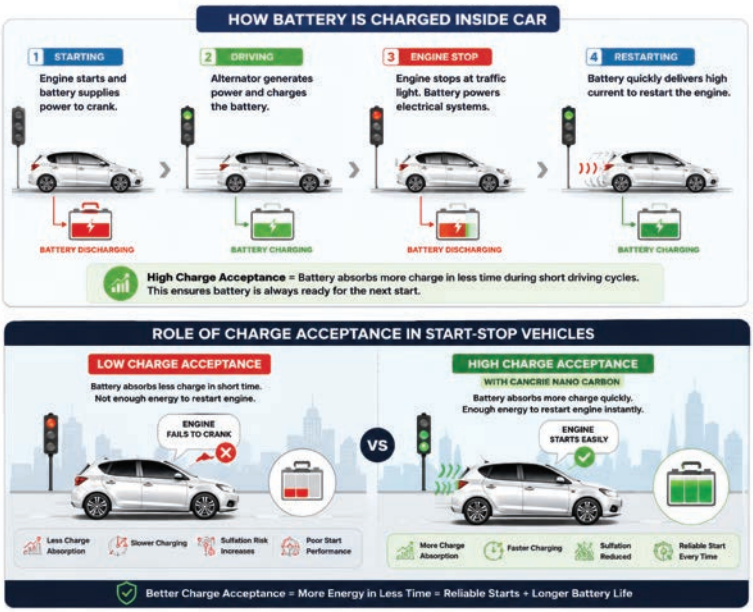
The soul is our guru and guide. If we listen to the voice of our soul, we can become good human beings. For this, a strong resolve is essential.

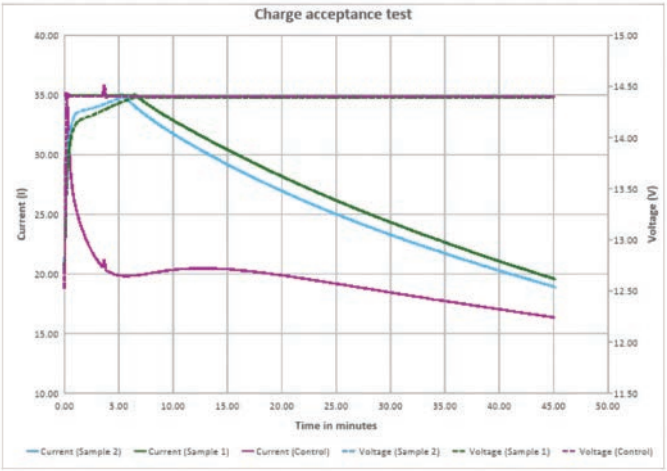
– Bhagwan Shri Sathya Sai Baba

Why Charge Acceptance Matters in Batteries - And How Cancrie Nanocarbon Is Improving It

Charge acceptance refers to a battery's ability to efficiently absorb and store electrical energy during charging. Higher charge acceptance enables faster charging, lower energy loss, improved efficiency, and longer battery life. It is especially important in applications such as e-rickshaws, UPS systems, solar storage, telecom backup, and automotive start-stop systems where batteries undergo frequent charging cycles.

In automotive applications, lead-acid batteries are often charged for very short durations under constant-voltage conditions during traffic movement and braking events. The battery must





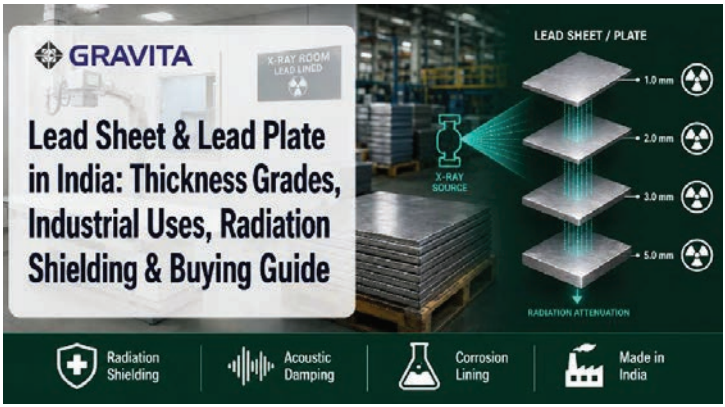
rapidly absorb this charge and instantly provide high cranking power for engine restart. Poor charge acceptance limits this capability and accelerates sulfation, making it a critical challenge for modern lead-acid batteries.

Lead-acid batteries often struggle under partial state-of-charge (PSoC) conditions. Cancrie nanocarbon technology addresses this challenge by improving conductivity, optimizing pore size distribution, and enhancing ion transport within the negative plate. The engineered porous structure improves active surface utilization and reduces sulfation, enabling faster charge transfer.

Industrial tests have demonstrated up to 60% improvement in charge acceptance using Cancrie nanocarbon additives in lead-acid batteries. The charge acceptance graph highlights significantly higher current absorption compared to conventional systems.

These improvements can translate into faster charging, better reliability, lower electricity losses, and longer battery life, helping unlock cleaner and more efficient energy storage solutions. ❑

GRAVITA
INDIA LIMITED



Lead Sheets and Lead Plates in India: Thickness Types, Industrial Uses, Radiation Shielding, and Purchasing Guidelines

– Gravita India Ltd., Jaipur –

Lead sheet and lead plate are among the most specialised and widely relied-upon forms of manufactured lead in industrial India. Their unique combination of high density, ductility, chemical inertness, and radiation-attenuating properties makes them widely used in applications ranging from hospital X-ray rooms and nuclear facilities to marine construction, acoustic engineering, and high-voltage cable systems.

Yet for many procurement engineers and project managers, navigating the different grades, thickness specifications, alloy options, and quality parameters of lead sheet and plate can be complex. This guide covers everything you need to know - from material specifications and industrial applications to radiation shielding performance and a practical buying guide for Indian sourcing.

What Are Lead Sheets and Lead Plates?

Lead sheet and lead plate are flat, rolled products manufactured from refined lead or lead alloys. While the terms are often used interchangeably, there is a useful practical distinction:

Lead Sheet - typically refers to thinner material, ranging from 0.5 mm to approximately 6 mm in thickness. Lead sheet is highly flexible and workable, making it easy to cut, fold, and shape on-site.

Lead Plate - generally refers to thicker material, from approximately 6 mm upward to 25 mm or more. Lead plates are more rigid and are specified

where structural rigidity, high radiation shielding equivalence, or significant physical protection is required.

Both are manufactured by rolling lead billets or cast lead through a series of rolling mills to achieve the target thickness and surface finish. Width and length are typically cut to standard sizes or customised to project requirements.

How Lead Sheet Is Manufactured?

The manufacturing process for lead sheet starts at the lead smelting plant, where refined or alloyed lead is produced from either primary ore or secondary recycled feedstock. The downstream sheet manufacturing process involves:

Casting - Molten lead or lead alloy is poured into book moulds or continuous casting machines to produce cast slabs of controlled weight and dimensions.

Rolling - The cast slabs are passed through rolling mills at controlled temperatures and pressures to reduce thickness progressively toward the target gauge.

Annealing - For thinner gauges, intermediate annealing may be required to restore ductility and prevent work-hardening cracking.

Cutting and Sizing - Rolled sheet is cut to standard widths and lengths or custom dimensions using guillotine shears.

Quality Inspection - Finished sheet is inspected for thickness uniformity, surface defects, dimensional accuracy, and weight-per-unit-area (kg/m²).

Standard Thickness Grades and Specifications

Lead sheet in India is specified by thickness (mm) and corresponding surface weight (kg/m²). The relationship between the two is linear, based on lead's density of approximately 11.34 g/cm³. The Table-1 provides a reference for standard commercial grades.

Lead Alloys Used in Sheet and Plate Manufacturing

Not all lead sheet is made from pure lead. Depending on the application, different alloy grades are specified in Table-2.

Industrial Uses of Lead Sheet and Lead Plate in India

1. Radiation Shielding (Primary Application)

The largest and most technically demanding use of lead sheet in India is radiation shielding. India's healthcare sector has expanded dramatically - with thousands of diagnostic imaging centres, cancer treatment facilities, and nuclear medicine departments across tier-1 and tier-2 cities. Each one requires certified radiation shielding in its walls, floors, and ceilings.

Lead sheet is the preferred radiation shielding material because:

It has a very high density (11.34 g/cm³), enabling effective radiation attenuation per unit thickness

It is flexible enough to line irregular surfaces, wrap around pipes, and be installed in awkward geometries without specialised fabrication

It does not degrade over time under normal radiation doses in diagnostic settings

It can be installed behind drywall, plaster, or timber framing without

Thickness (mm)	Surface Weight kg/m²	Lead Equivalence (mmPb)	Typical Application
0.5	5.7	0.5	Light radiation shielding overlays, lining
1.0	11.3	1.0	X-ray room lining, dental radiology
1.5	17.0	1.5	Medical X-ray rooms, fluoroscopy suites
2.0	22.7	2.0	CT scan shielding and ancillary radiation protection
3.0	34.0	3.0	Linear accelerator (LINAC) rooms, nuclear labs
5.0	56.7	5.0	Industrial radiography, gamma testing facilities
6.0+	68+	6.0+	Nuclear waste storage, hot-cell construction
10–25	113–283	10–25	High-energy gamma shielding, reactor components

Table-1

significantly increasing wall thickness

It is cost-effective compared to alternative heavy concrete or composite shielding materials at equivalent lead equivalence.

Radiation Shielding Applications by Facility Type

Diagnostic X-Ray Rooms

General diagnostic X-ray rooms in India typically specify 1.0 to 1.5 mmPb for walls, with the exact value determined by a medical physicist based on the X-ray unit's kVp rating, workload, and the occupancy of adjacent spaces. The AERB (Atomic Energy Regulatory Board) and Bureau of Indian Standards specify minimum shielding requirements for different facility types.

CT Scan Rooms

CT scanners are significantly more radiation-intensive than conventional X-ray units. Primary barriers (walls in the X-ray beam path) for CT rooms typically require 2.0 to 3.0 mmPb or higher, while secondary barriers and the control booth may specify 1.0 to 2.0 mmPb.

Fluoroscopy and Interventional Radiology Suites

Fluoroscopy generates continuous X-ray exposure rather than brief exposures, leading to higher shielding requirements. Lead sheet of 1.5 to 2.5 mmPb is typically specified, with additional lead glass viewing windows and lead-lined doors with overlapping seals.

Alloy Grade	Composition	Key Properties	Applications
Pure Lead (99.97%)	Pb ≥ 99.97%	Maximum corrosion resistance, high ductility	Chemical plant lining, radiation shielding, acid baths
Antimonial Lead (2–8% Sb)	Pb + Sb	Higher hardness and strength vs pure lead	Structural plates, cable sheathing, battery grids
Calcium Lead	Pb + Ca (0.03–0.1%)	Improved creep resistance	Cable sheathing, specialty plates
Tellurium Lead	Pb + Te	Superior fatigue resistance, better machinability	Chemical plant applications, precision machined parts

Table-2

Radiation Oncology / Linear Accelerator (LINAC) Rooms

Medical linear accelerators used in cancer treatment generate high-energy photon beams at energies of 6 MV to 18 MV or higher. At these energies, lead shielding must be combined with concrete - lead plate is used at doorways, maze walls, and high-dose areas where concrete thickness alone would be impractical. Lead plate may be used in selected high-dose areas, doors, and specialised shielding applications within LINAC facilities, depending on the shielding design approved by the project physicist.

Nuclear Medicine and PET-CT Departments

Nuclear medicine uses radiopharmaceuticals that emit gamma radiation. Hot labs, dose calibrator rooms, patient injection areas, and waiting areas all require shielding. Lead sheet of 2.0 to 3.0 mmPb in walls and lead-lined storage containers are standard. PET-CT facilities, which handle high-energy 511 keV annihilation photons, require thicker shielding - typically 3.0 to 5.0 mmPb.

Industrial Radiography Facilities

Non-destructive testing (NDT) using industrial X-ray machines and gamma-ray sources (Iridium-192, Cobalt-60) requires heavy shielding. Bunkers and shielded enclosures for industrial radiography typically use thick lead plate (5–15 mm) combined with concrete construction.

2. Acoustic and Vibration Damping

Lead sheet's high density and viscoelastic properties at room temperature make it an effective material for sound isolation and vibration damping. Lead-lined drywall panels, acoustic enclosures for industrial machinery, marine bulkheads, and generator room linings use lead sheet to reduce noise transmission.

In India, lead acoustic solutions are used in:

1. Power plant and generator enclosures
2. Commercial HVAC duct lining

3. Marine and naval vessel bulkheads
4. Studio and auditorium construction (in combination with other acoustic materials)
5. Defence and sensitive installation noise isolation

3. Chemical Plant Lining and Corrosion Protection

Pure lead offers strong corrosion resistance in certain sulphuric acid and chemical processing applications. Lead sheet is used to line:

1. Acid storage tanks and pickling baths
2. Sulphuric acid plant equipment, sumps, and drainage channels
3. Electroplating tanks and electrolytic cells
4. Chlor-alkali and fertiliser plant corrosion-resistant surfaces

India's large chemical manufacturing sector - including fertiliser plants, acid producers, and electrochemical facilities - is a significant market for chemical-grade pure lead sheet.

4. Cable Sheathing

Extruded lead and lead-alloy sheaths are applied over high-voltage underground cables and submarine power cables to provide moisture impermeability, mechanical protection, and electromagnetic shielding. While polymeric cable sheaths have replaced lead in many applications, lead remains the specification material for certain high-voltage transmission cables, especially in underground and submarine installations.

5. Construction Applications

1. Lead sheet has specific construction applications including:
2. Roof flashing, valley lining, and weatherproofing at joints and penetrations (particularly in institutional and heritage buildings)
3. Lead-lined joints and interfaces in nuclear and specialised facilities
4. Lead wool and lead sheet for pipe penetration sealing in radiation areas
5. Counterweights and ballast in construction lifting equipment

Recycled Lead Sheet vs Virgin Lead Sheet - Is There a Difference?

For most applications, high-quality recycled lead sheet is technically equivalent to virgin-grade material. The key factor is the purity of the refined lead used as the starting material for sheet production. When secondary lead is refined to 99.97% purity - as is standard at authorised smelters like Gravita India - the downstream lead sheet produced from it meets the same chemical and mechanical specifications as sheet made from primary lead.

Radiation shielding equivalence (mmPb) is determined entirely by density and thickness, not by the origin of the lead. A 2.0 mm sheet of 99.97% secondary lead provides equivalent radiation shielding performance when manufactured to the required purity and density specifications.

Understanding how secondary lead is recovered from used battery scrap gives procurement teams confidence in the traceability and quality of recycled

lead products.

Lead Sheet Buying Guide for India (2026)

Step 1 - Define Your Technical Requirements

Before approaching a supplier, document:

1. Required thickness (mm) or lead equivalence (mmPb) - from your radiation physicist's report or engineering specification
2. Alloy grade (pure lead 99.97%, antimonial, or other)
3. Sheet or plate dimensions (standard or custom-cut)
4. Surface finish requirements (as-rolled, or milled)
5. Quantity and delivery timeline
6. Applicable standards (BIS, ASTM, BS, or customer-specific specification)

Step 2 - Verify Supplier Authorisation and Compliance

In India, lead sheet manufacturers who produce from secondary lead must hold authorisation under the Hazardous Waste (Management and Transboundary Movement) Rules and the Battery Waste Management Rules. Verify:

1. CPCB/SPCB authorisation for the manufacturing facility
2. ISO 9001 or relevant quality certifications
3. Test certificates and material traceability documentation
4. GST registration and compliance (important for B2B procurement)

Step 3 - Request Material Test Certificates

For any structural or radiation shielding application, request a Material Test Certificate (MTC) confirming the lead purity, alloy composition, thickness measured by ultrasonic or mechanical gauge, and density. Radiation shielding projects additionally benefit from a batch-traceable certificate that can be submitted with your AERB or hospital authority documentation.

Step 4 - Evaluate Total Cost, Not Just Unit Price

Lead sheet pricing in India is typically quoted per kilogram or per m² at a given thickness. When comparing suppliers, factor in:

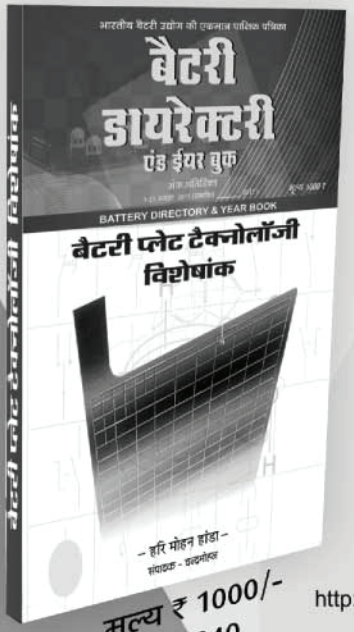
1. inimum order quantities (MOQ)
2. Custom cutting charges if non-standard sizes are needed
3. Freight from the manufacturing location to your project site
4. Payment and credit terms
5. Lead time - critical for construction and hospital projects with fixed handover dates ❑

When we "skill" our knowledge,
life is well-balanced.
When we "kill" our knowledge,
the balance is upset.

लैड रिसाईक्लर्स, बैटरी व बैटरी प्लेट निर्माताओं के लिए उपयोगी पुस्तक

बैटरी प्लेट टैक्नोलॉजी

विशेषांक



मूल्य ₹ 1000/-
पृष्ठ 340

विषय सूची:

लैड एवं लैड एलॉयज़ | लैड ऑक्साईड्स | डिस्टिल्ड वाटर एवं सल्फ्युरिक एसिड | पेस्ट्स एवं पेस्ट मिक्सिंग | प्लेट फॉर्मेशन | सैपरेटर | बैटरी चार्जिंग | बेसिक इलैक्ट्रोकैमिस्ट्री एवं सम्बन्धित तकनीकी प्रकियाएँ | कुशल कार्य संपादन हेतु विशिष्टताएँ ...

विस्तृत अध्यायवार सूची के लिए विज़िट करें
http://www.batterydirectory.co.in/Battery_Plate_Tech.php

शुल्क निम्नलिखित में से किसी भी एकाउंट में जमा करा कर सूचित करें :-

BANK ACCOUNT of **BATTERY DIRECTORY AND YEAR BOOK**			
BANK NAME	***ACCOUNT NO***	***IFSC CODE***	***BRANCH ADDRESS***
UNION BANK OF INDIA	565101000013133	UBIN0920711	GTB Enclave, NVM, Delhi-110 093
PhonePe / Google Pay / Paytm A/c	**CHANDRA MOHAN - Mobile No. 9810268067**		

Amara Raja's Lithium R&D Center and Li-battery Cell Qualification Plant

Indian lead battery major Amara Raja Energy & Mobility has revealed that "accelerated" construction is underway of its first BESS manufacturing plant that is slated to start operations by the end of this year.

Plans for the BESS unit were disclosed on May 25 — when the company said its mainstay lead acid battery business helped increase revenue and deliver profit before tax of Rs 1,307 crore ($155 million) for the 2025-26 financial year, ended last March.

Executive director of Amara Raja's new energy division, **Vikramadithya Gourineni**, said the BESS unit would complement the group's development of its lithium ion battery cells business, centred on its 'giga corridor' infrastructure in Telangana.

Details of BESS product designs and exact chemistry were not disclosed, but Gourineni said the initial 5GWh capacity facility would aim to cater for commercial and industrial sectors and grid applications.

Meanwhile, the giga corridor is "shaping up well", with a lithium R&D centre and Li battery cells qualification plant undergoing commissioning and due to start operations in the next month.

Gourineni said the progress marked the firm's first significant milestone for its support of the national 'make-in-India' initiative as it starts supplying commercial samples to customers in advance of launching its first Li gigafactory.

"The first 2GWh of cell manufacturing remains on track for June 2027," Gourineni said.

Jayadev Galla, group chairman and MD, said Amara Raja's consistently strong performance over the past year had been underpinned by its mainstay lead acid battery business and growing momentum in the new energy sector.

"Despite evolving geopolitical dynamics and rapid technological shifts, our focus on strategic diversification into new products and chemistries has positioned us strongly for the future.

"Energy storage is fundamental to India's growth journey, and we are steadily strengthening our capabilities to emerge as the country's leading cell-to-grid player."

Revenue from overall operations for the period increased by 16% over the previous year to Rs13,549 crore.

In terms of lead batteries, Amara Raja said the Indian market is projected to reach $6.2 billion by fiscal 2031 with a compound annual growth rate of ~4.2%. It reckoned that the global lead acid battery market is projected to reach $64.2 billion by FY2031 with a CAGR of ~4.4%. ❑

Impact of GST on credit access for MSMEs

The introduction of the Goods and Services Tax (GST) has significantly transformed the way micro, small, and medium-sized enterprises (MSMEs) access the financial system, marking a turning point for the Indian economy. Prior to this system, many small enterprises operated in a fragmented and informal manner, which often hindered access to formal finance. This change has created a digital record of transactions, which has profoundly impacted the financial system. The impact of GST on MSME creditworthiness is significant, even though it has added another layer of compliance complexity. The GST framework has transformed MSME credit assessment and financial inclusion across the country, moving to a transparent, invoice-based approach that provides lenders with a reliable data source to evaluate a firm's true health and turnover.

Impact of GST on the creditworthiness of MSMEs

The impact of GST on the credibility of primary MSMEs is the shift away from self-reported and often informal income records to a structured, verifiable system of sales records.

Previously, many small and medium enterprises faced challenges in obtaining formal credit due to limited documentation and a lack of audited financial records. Following the implementation of GST, every sale and purchase is systematically recorded through monthly returns such as GSTR-1 and GSTR-3B, creating a transparent digital record of business activities.

This has increased transparency for lenders, allowing them to more accurately assess business and business performance. As a result, small and medium enterprises (MSMEs) are now able to build stronger financial profiles based on verified data rather than informal estimates.

Does GST improve MSME loan eligibility?

The move to a unified tax system has enabled several benefits that directly improve businesses' access to credit. Small and medium-sized enterprises (MSMEs) can now formalize their businesses and access higher loan amounts and competitive interest rates, which was previously unavailable to them.

The main benefits of formalisation driven by GST are as follows:

1. Digital transaction history: Lenders use the historical records of turnover produced by continuous filing to determine the stability and growth patterns of businesses.

2. Reduction in information asymmetry: By bridging the gap between claims made by the borrower and information that can be verified by the lender, GST data speeds up loan processing.

3. Better turnover tracking: GST returns provide businesses with an opportunity to get a clear view of their customers and market reach, which is essential for evaluating term loans.

Access to priority sector lending: Government-backed programmes that require GST registration for interest subsidies are more accessible to formally registered small and medium enterprises (MSMEs).

GST Data and Loan Assessment

GST data and credit appraisal have become a crucial part of MSME credit appraisal by 2026. This will help lenders assess business performance using real-time financial information.

Lenders now use GST returns like GSTR-1 (sales data) and GSTR-3B (summary return) to understand business trends and business stability, instead of relying only on annual financial statements.

This allows lenders to re-evaluate revenue stability, seasonal fluctuations, and investment potential more effectively. For example, consistent monthly turnover can indicate stable cash flow, which is helpful in re-evaluating investment potential.

Timely GST filing also reflects financial discipline, which is viewed positively during loan appraisal.

Challenges faced by small and medium enterprises in accessing credit

The impact of GST on MSME creditworthiness Despite the long-term benefits, it has created several operational challenges. Micro-businesses without specialized accounting staff may face significant compliance burdens. Any errors or delays in filing taxes can negatively impact a business's creditworthiness, potentially resulting in loan denials. Furthermore, because taxes must be paid on an accrual basis, firms may be required to pay by charging taxes on invoices before the payment is actually received from customers, the GST system can sometimes lead to short-term working capital issues. Businesses

require a supplemental line of credit to address these short-term tax liabilities, as this imbalance can strain liquidity, especially for industrial units with long credit periods.

Strategies to improve credit access for MSME

Business owners should adopt a systematic approach regarding tax and financial records to reap the beneficial benefits. Impact of GST on MSME Credit Due to its strategic planning, these businesses are always ready to take loans.

Practical ways to improve access to credit:

1. Ensure accurate and timely filing: Regular GST filing helps build a consistent compliance record, thereby increasing lender confidence.

2. Maintain clean digital records: Using a GST-integrated accounting system helps reduce discrepancies between financial accounts and tax filing.

3. Take advantage of GST-based loan products: Some lenders offer financing solutions linked to GST data to help businesses manage working capital needs more efficiently.

4. Use asset-backed loans where necessary: Small and medium enterprises (MSMEs) can consider secured loan options backed by eligible assets such as gold or other collateral, depending on the lender's policies and evaluation criteria. These options can be helpful in meeting short-term liquidity needs during tax cycles.

Conclusion

The Indian small business sector is undoubtedly moving towards a more professional and transparent future. Impact of GST on MSME Creditworthiness While there were compliance difficulties in the initial years, the long-term outcome is a more inclusive financing environment where creditworthiness is determined not solely by assets but by data. By embracing digital transformation and adhering to strict filing procedures, small and medium enterprises (MSMEs) can transform the GST regime into a powerful tool for financially leveraging compliance. Businesses that prioritize transparency will lead India's economic growth in 2026 as lenders continually improve their GST-based valuation models. They will also gain better access to the capital needed for sustainable growth. ❑

What Happens to Your EV Battery After It Dies?

As EV adoption rises in India, a less-discussed issue is emerging—what happens to batteries at the end of their life?

Most EV batteries last 5–8 years. After that, they don't "die" completely—they just lose efficiency.

Reality of Battery End-of-Life

Even at 70–80% capacity, EV batteries can still be used for:

1. Home energy storage
2. Backup systems
3. Industrial applications

This process is known as "second-life usage," and many Lithium-Ion Battery Manufacturers India are exploring these applications to reduce battery waste.

The Recycling Challenge

India currently lacks a robust battery recycling ecosystem.

Challenges include:

1. Limited recycling infrastructure
2. Lack of awareness
3. Informal disposal practices

Improper disposal can lead to:

1. Environmental hazards
2. Resource wastage

Why Recycling Matters

EV batteries contain valuable materials like:

1. Lithium
2. Cobalt
3. Nickel

Recovering these reduces:

1. Dependence on imports
2. Environmental impact

Government Regulations

India has introduced battery waste management rules, but implementation is still evolving.

Manufacturers are increasingly being held responsible for:

1. Collection
2. Recycling
3. Safe disposal

Problem

India's EV push cannot succeed without solving the recycling problem.

Battery waste is not just a technical issue—it's an environmental and economic one.

Way Forward

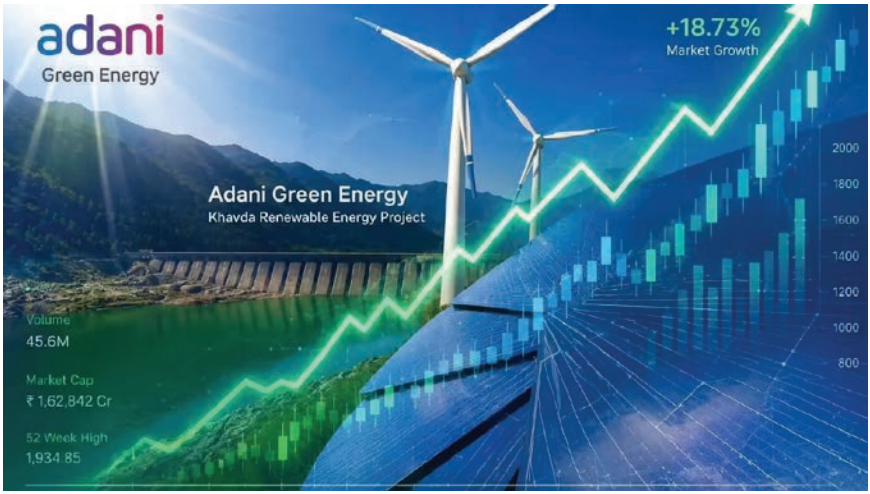
1. Build formal recycling infrastructure

2. Encourage second-life applications

3. Educate consumers and businesses

4. Strengthen policy enforcement.

❑



Adani Green makes a major announcement,

Commissioning a 33.7 GWh battery storage system in Gujarat

Adani Green Energy Ltd , a leading company of the Adani Group and the energy sector, informed the stock exchange on May 26, that it has commissioned its massive 33.7 gigawatt-hour (GWh) battery energy storage system in Khavda, Gujarat, at 9:30 pm on May 25, 2026. Following the news, Adani Green's stock saw a surge and at around 10:45 am, the company's stock was seen trading at Rs 1445.60, up over 2.40%. The company's market cap is Rs 2,32,441 crore.

Production capacity exceeds 19,000 MW

With this announcement, Adani Green's total operational renewable energy generation capacity has increased to 19,785.8 MW, while total operational battery energy storage system capacity now stands at 3,366 MW. This is considered a major achievement for the company. The entire project is part of a 30 GW renewable energy development project spanning 538 square kilometers in Gujarat.

System was completed in 10 months

According to the company, the project was completed within just 10 months from the start of construction, making it one of the fastest deployments among large utility-scale battery storage projects in the world. Completion of such a large-scale project in such a short period also demonstrates the company's engineering and project management capabilities. ❑

Fire at Rewari electric scooter factory due to Battery Explosion

In Rewari, a fire broke out at the TOXMO electric scooter manufacturing factory near Rajpura village in Dharuhera on 20 May. Flammable materials like batteries and tires and tubes caught fire quickly, and the entire factory was engulfed in flames, sending a plume of black smoke rising several feet high. The fire was brought under control in about eight-thirty minutes with the help of 10 fire brigade vehicles.

The fire at the Electric School factory caused widespread panic. Upon receiving the information, the fire brigade team and SHO Kashmir Singh arrived at the scene with a police team. No casualties were reported, but scooters and other items stored in the factory were destroyed. The damage is estimated to be in the millions.

According to reports, a battery on the third floor exploded and caught fire. Due to the battery and other items stored there, the fire spread rapidly. Upon receiving the news of the fire, a large number of people from the surrounding area gathered at the scene. Water began to be supplied through pipelines to assist the fire brigade team working to control the blaze. ❑

You should welcome the test as it gives you confidence and ensures promotion.

– Bhagwan Shri Sathya Sai Baba

बैटरी डायरेक्टरी
एंड ईयर बुक

बार-बार सबस्क्राइब करने से पाएं छुटकारा
बनें लाइफमेम्बर
शुल्क मात्र 10000 रूपए

ट्रांसफर या पेटीएम करके

बैटरी डायरेक्टरी आजीवन प्राप्त कीजिए।
वार्षिक डायरेक्टरी में आपकी फर्म का विवरण
मुफ्त छपता रहेगा और पाक्षिक व वार्षिक अंक
बराबर मिलते रहेंगे।

शुल्क निम्नलिखित में से किसी भी एकाउंट में जमा करा कर सूचित करें :-

BANK ACCOUNT of **BATTERY DIRECTORY AND YEAR BOOK**			
BANK NAME	*ACCOUNT NO*	*IFSC CODE*	*BRANCH ADDRESS*
UNION BANK OF INDIA	565101000013133	UBIN0920711	GTB Enclave, NVM, Delhi-110 093
PhonePe / Google Pay / Paytm A/c	CHANDRA MOHAN - Mobile No. 9810268067		

Uniting Small Scale Battery Industry
41 years of Publication
1985 - 2026

बैटरी डायरेक्टरी एंड ईयर बुक
510, जनता फ्लेट्स, जी.टी.बी. एन्क्लेव, दिल्ली-110093
मोबाइलः 9810268067, 9971150801, 9910699538
Email: battdir@gmail.com

www.batterydirectory.co.in | onlinebatterydirectory.com

Fire at Battery Showroom in Mainpuri

A fire broke out at the Maheshwari Traders battery showroom in Mainpuri on May 22. Since the showroom had already closed for the day, no one was present inside. Batteries and oil drums stored in the showroom exploded with loud bangs, causing the fire to intensify significantly. Two fire tenders arrived at the scene. After a strenuous effort, the fire brigade brought the blaze under control, but by then, stock worth lakhs of rupees had been destroyed. The showroom is operated by Sh. Pankaj Maheshwari and Sh. Piyush Maheshwari. ❑

The voice of God can be heard only in the depths of silence.

– Bhagwan Shri Sathya Sai Baba

Uniting Small Scale Battery Industry
41 years of Publication
1985 - 2026

BATTERY DIRECTORY & YEAR BOOK

Fortnightly Magazine Registered with Registrar of Newspapers for India. Regd. No. R.N. 43092/85
510, Janta Flats, G.T.B. Enclave, Delhi -110 093, Tel.: +91 11-22593952
Mobile: +91 9810268067, +91 9910699538, +91 9971150801, E-mail: battdir@gmail.com,
Website: **www.onlinebatterydirectory.com, www.batterydirectory.co.in**

Dt. 21st January 2026

Subject: Advertisement in the Fortnightly Issues of BATTERY DIRECTORY.

Dear Sirs,

By advertising in the fortnightly issues of Battery Directory (Hindi and English editions), you can reach all battery and battery parts manufacturers, battery rebuilders, battery smelters, etc., both domestically and internationally, with your sales message at a very low cost. The fortnightly issues of Battery Directory are published in a print run of 2100 copies each month, with the Hindi edition released on the 1st and the English edition on the 15th. The digital edition of Battery Directory is also available online. Battery Directory-2026, the fortnightly issues, and the latest news from the battery industry are now available on the **websites www.batterydirectory.co.in and www.onlinebatterydirectory.com**

The advertising rates per insertion are as follows:

		Total
1. **Front cover** (Size 12.5 cm x 14cm)	₹ 18,000 + 5% GST	₹ 18,900
2. **Inside front cover** (Size 19 cm x 11cm)	₹ 13,000 + 5% GST	₹ 13,650
3. **Page no. 3** (Size 19 cm x 11cm)	₹ 12,000 + 5% GST	₹ 12,600
4. **Back cover** (Size 19 cm x 11cm)	₹ 15,000 + 5% GST	₹ 15,750
5. **Inside back cover** (Size 19 cm x 11cm)	₹ 11,000 + 5% GST	₹ 11,550
6. **Opp. State Map or opp. beginning of the Address**	₹ 10,000 + 5% GST	₹ 10,500
7. **Full page in multi colours** (Size 19 cm x 11 cm)	₹ 9,000 + 5% GST	₹ 9,450
8. **Half page in multi colours** (Size 9.5 cm x 11 cm)	₹ 5,000 + 5% GST	₹ 5,250
9. **One fourth page in multi colours** (Size 4.5 cm x 11 cm)	₹ 2,700 + 5% GST	₹ 2,835
10. **Full ordinary page in Black & White** (Size 19 cm x 11 cm)	₹ 5,000 + 5% GST	₹ 5,250
11. **Half ordinary page in Black & White** (Size 9.5 cm x 11 cm)	₹ 2,600 + 5% GST	₹ 2,730
12. **One fourth page in Black & White** (Size 4.5 cm x 11cm)	₹ 1,500 + 5% GST	₹ 1,575

Special features of
Battery Directory-2026

✓ 1528 pages in two parts
✓ Details of 6246 firms involved in Battery Industry/ Trade
✓ 2363 Firm's Verified GST Numbers
✓ 254 Firm's Verified

UDYAM Numbers

✓ List of 64 types of industries related to batteries

✓ WhatsApp nos. of 2964 firms

✓ E-mails of 3228 firms

✓ Websites of 1566 firms

✓ 1231 changes/amendments in last year's Directory

✓ Names of firm owners in bold letters

13. **Front Page of Battery Directory Website** (Size 100 px x 700 px)
(At least 30 days booking mandatory) ₹ 99 per day (+18% GST) ₹ 1,752

Discount of 10% is available for the advertisers releasing at least 6 insertions in a year with advance payment.

Annual Subscription of Online Battery Directory (website www.onlinebatterydirectory.com) & Battery Directory (Hard Copy) is just ₹ 1,650/-. The annual subscription of Battery Directory (Hard Copy) is ₹ 650/- (Including Postage Charges) only. Subscriber of Annual Battery Directory shall also get the fortnightly issues upto December month. To access Online Battery Directory, user name and password will be provided by us. You may deposit the Subscription/Advertisement charges by Transfer in any of the following Banks at your City under intimation by SMS to us:

OD BANK ACCOUNT of BATTERY DIRECTORY AND YEAR BOOK			
BANK NAME	*ACCOUNT NO*	*IFSC CODE*	*BRANCH ADDRESS*
UNION BANK OF INDIA	565101000013133	UBIN0920711	GTB Enclave, NVM, Delhi-93
SAVING BANK ACCOUNT of CHANDRA MOHAN			
ICICI Bank	113301000225	ICIC0001133	Dilshad Garden, Delhi-95
UNION BANK OF INDIA	520101018250706	UBIN0920711	GTB Enclave, NVM, Delhi-93
PhonePe / Google Pay / Paytm Account	CHANDRA MOHAN - Mobile No. 9810268067 in A/c: 113301000225		

The addresses of 6246 Battery Entrepreneurs/businessmen from India and abroad have been published in the Annual Battery Directory-2026 (page 1528, two parts). The Annual and Fortnightly Battery Directory is the best medium to reach all the major battery/battery parts entrepreneurs from India and abroad. To advertise in the fortnightly issues and in the Annual Battery Directory-2027, please contact Anuradha: 9971150801, Chandra Mohan: 9810268067, Shekhar Verma: 9910699538.

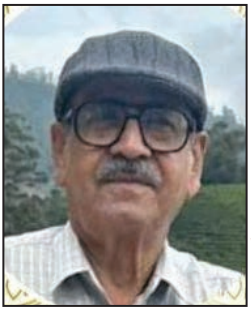
Looking forward to serve you.

Yours faithfully,

for **Battery Directory & Year Book**

(CHANDRA MOHAN)

Tribute



Late Shri Ramesh Kumar Manocha

24.01.1957 - 08.06.2026

Crown Batteries (India), Delhi

Sh. Ramesh Kumar Manocha Passes Away

Shri Ramesh Kumar Manocha (69) of Crown Batteries (India), Delhi, passed away on June 8, 2026. He was one of Delhi's veteran battery manufacturers; at one time, the 'Crown' batteries he manufactured for motorcycles were renowned across the country. He had wound up the operations of Crown Batteries (India) just a few months prior to his passing. Born on January 24, 1957, he is survived by his son, Shri Sameer Manocha, who works in Bengaluru, and his younger brother, Shri Narendra Manocha, who is also in the battery business. Many members of the battery industry paid their tributes during the *Pagdi* ceremony held on June 11 at the Gita Bhawan Temple in Gita Colony.

He held deep faith in Lord Krishna and frequently visited the ISKCON Temple in Greater Kailash, Delhi. The 'Battery Directory' family pays its heartfelt tributes on his passing. ❑

Believe in God, for God is one for
all of humanity—even though He
is called by many names.

– Bhagwan Shri Sathya Sai Baba

Battery Directory-2026
Products Manufacturers Index

❑

Benefits of Advertising in Battery Directory

If you advertise in the Battery Directory, you will receive the following benefits:-

✔ **Your product will be promoted among battery entrepreneurs from India and abroad.**

✔ You will receive a free set of the Battery Directory-2026 (priced at Rs. 650).

✔ **The Online Battery Directory-2026 subscription fee is Rs. 1000, and this subscription will be provided free of charge. Not only you but also your staff will be able to view and benefit from the directory on their mobile phones, laptops, or computers.**

✔ Your name will be highlighted in the Product Manufacturing Index.

✔ **Your mobile number will be added to the Battery Directory WhatsApp group, allowing you to connect directly with battery entrepreneurs across the country and meet your needs within the group.**

✔ You will receive free access to the Battery Directory's fortnightly issues throughout the year.

✔ **You can submit articles and news for publication in the magazine.**

✔ Your photo may be published in the Battery Directory under the "Batterymen at a Glance" column.

✔ **Your address will be printed in the Battery Directory with your brand name logo, which will draw attention to your address.**

✔ In the Online Battery Directory, you can easily access the details and advertisements of the people you want to find in a few moments using the search tool. This way, other people can also reach you. This easy access increases business.

✔ **Your advertisement will appear under your city in the Online Battery Directory portal www.onlinebatterydirectory.com.**

✔ Your company name will appear under your state and city in the online battery directory portal www.onlinebatterydirectory.com.

The fee for a one-page color advertisement (including 5% GST) is ₹9,450.

The fee for a half-page color advertisement (including 5% GST) is ₹5,250.

The fee for a one-page color advertisement (including 5% GST) is ₹5,250.

Chandra Mohan: 9810268067

Benefits of Becoming a Member of the Battery Directory

If you subscribe to the Battery Directory, you will receive the following benefits:-

✔ **You will receive a free set of the Battery Directory-2026 (priced at Rs. 650).**

✔ The fortnightly issues of Battery Directory (two magazines per month, Hindi and English), which were previously sent by ordinary post, will now be sent by registered post (magazine post) by December 2026. You will receive them within five days of publication.

✔ **Your firm's name and address will be published free of charge in the Online Battery Directory and in the Battery Directory-2027, which will be published in January 2027.** Entrepreneurs will be able to easily contact you through the search tool.

✔ **You will be added to the Battery Directory's WhatsApp group, allowing you to connect directly with battery entrepreneurs across the country and fulfill your needs within the group.**

✔ Battery, Inverter, Battery Charger, UPS, and RO manufacturers will find information about you, and you will also be able to contact them.

✔ The magazine publishes news about the activities of various Battery Associations and Battery Federations in the country. You will also be able to connect with the battery world.

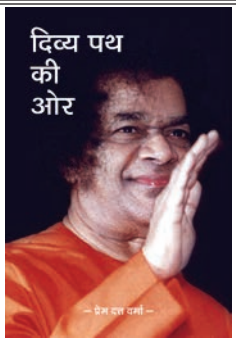
✔ Articles on Batteries, Battery Machinery, Battery Chargers, etc. are published in the fortnightly issues of Battery Directory. You will benefit from studying them.

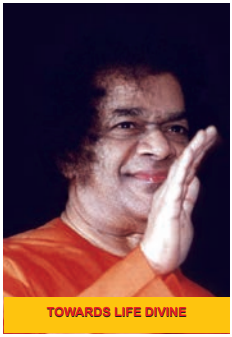
✔ You can also submit your news for publication in the Battery Directory.

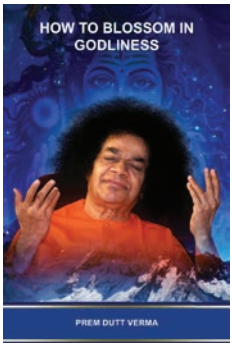
The subscription fee for the Battery Directory (hard copy) is only ₹650.

The subscription fee for the Online Battery Directory is only ₹1000.

Chandra Mohan: 9810268067







Priced at ₹20 each.

(Send an additional ₹100 to order by registered post.)

The books are also available at the Prasanthi Nilayam main book stall.

To obtain them:

Battery Directory and Year Book

510, Janta Flats, G.T.B. Enclave, Delhi-110093, Mob.: ***9810268067***

Begin the practice of 'NAAMJAP'

to purify your mind, speech, and actions.

Experience the grace of God in resolving your problems by completing 125,000 Naamjap (6 notebooks).

Each notebook contains 21,024 Naamjap.

Price per notebook: ₹20.

Receive a new notebook free of cost upon submitting a completed one.

(Send an additional ₹100 to receive your order via Registered Post.)

To obtain a Namjap Copy

Battery Directory and Year Book

510, Janta Flats, G.T.B. Enclave, Delhi-110093

Chandra Mohan: 9810268067

श्री सत्य सेवा संस्थान (रजि.)

Regd. No. S-37769/2000 Regd. in Income Tax U/s 12Aa

रजि. कार्यालय: 510, जनता फ्लैट्स, जी.टी.बी. एन्क्लेव, दिल्ली-110093

फोन : 9810268067

प्रमुख सेवा कार्य

✱ **लिखित एवं मौखिक नाम जप हेतु कॉपियाँ**
अपनी रुचि के अनुसार ईश्वर का कोई भी नाम लिखें अथवा मौखिक रूप से जप करें। भरी कॉपी के बदले नई कॉपी नि:शुल्क।
अब तक 19,02,09,396 लिखित नाम जप और 3 करोड़ 33 लाख मौखिक जप की कॉपियाँ भगवान श्री सत्य साई बाबा के चरणों में समर्पित।

✱ **नि:शुल्क एक्यूप्रेशर सेवा**
सेवा स्थान: साई दीप, 510, जनता फ्लैट्स, सोमवार, बुधवार और शुक्रवार सायं: 3 से 4
सेवा: श्री मोहन द्वारा

✱ **नि:शुल्क होम्योपैथिक मेडिकल सेवा**
सेवा स्थान: साई दीप, 510, जनता फ्लैट्स, प्रत्येक बुधवार प्रात: 8.30 से 10
सेवा: डॉ. आर. के. राठी (BHMS)

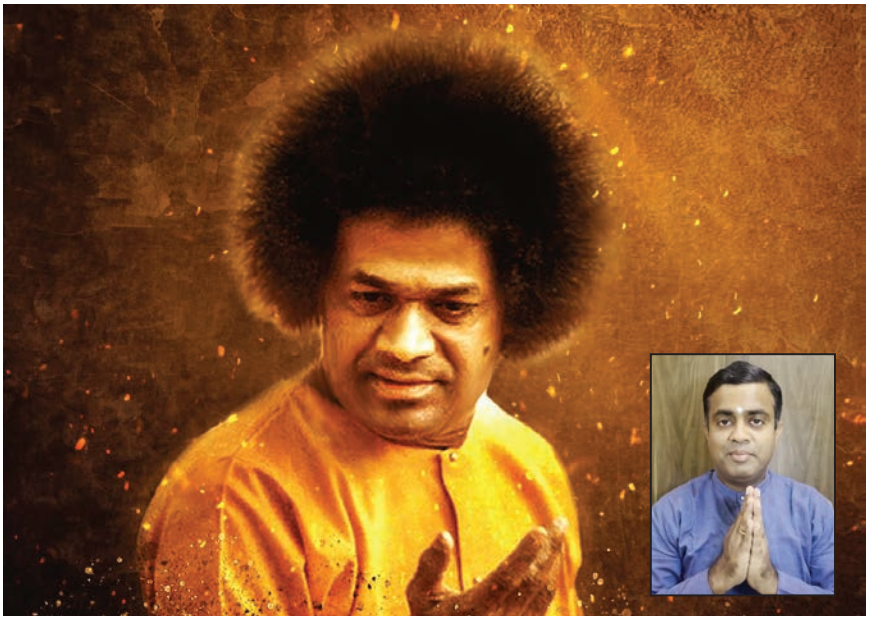
✱ **साई जागृति बालविकास केन्द्र** *(कोरोना के कारण फिलहाल सेवा स्थगित)*
बी-10, लेप्रोसी होम, ताहिरपुर कुष्ठ कॉलोनी, समय प्रात: 9.30 से 12.00 तक
कुष्ट रोगियों के बच्चों को मानवीय मूल्यों की नि:शुल्क शिक्षा व सिलाई कक्षा

✱ **नि:शुल्क लाइब्रेरी** - हिन्दी व अंग्रेजी में साई साहित्य पर लगभग 250 टाइटिल, साई फोटो, लॉकेट और विभूति उपलब्ध।

✱ **समय-समय पर नारायण सेवा**

✱ **बालविकास कक्षाएँ**

✱ **शीतल जल सेवा**



When Indira Gandhi sought Guidance from Lord Baba

– Arvind Balasubramaniam –

Smt. Indira Priyadarshini Gandhi served as the Prime Minister of India from 1966 to 1977 and again from 1980 until her death in 1984. She was known as the 'Iron Lady' and was recognized for her steely personality. However, there were at least two occasions when she wanted things to happen in a specific way, but it did not happen because Bhagavan Sri Sathya Sai Baba did not permit it!

These two incidents from the 1970s reveal the profound wisdom and perfection inherent in God's ways. Most importantly, they demonstrate Swami's love and compassion for His devotees—in this instance, Sri Gopal Rao and Sri Ram Brahma. They make it clear that while God is the supreme power in the universe, even that power bows before devotion.

Andhra Bank Strike

In 1972, Andhra Bank—one of India's major public sector banks—faced an unprecedented situation. The labor union called for a massive strike, with bank officers also joining the protest. Consequently, hundreds of Andhra Bank branches across the country had to be shut down due to a lack of staff to operate them. Moreover, the strike was so unprecedented and severe that it began to spread to other banks as well, raising fears that India's

entire financial system would grind to a halt and become unstable.

The situation was so grave and significant that the then Prime Minister of the country, Mrs. Indira Gandhi, had to intervene personally. Mrs. Indira Gandhi, who governed the country as Prime Minister for over a decade, is known as a very strong woman.

In this context, he asked for the Chairman of Andhra Bank to be summoned to Delhi. At that time, the Chairman of Andhra Bank was Mr. Gopal Rao. Mr. Gopal Rao was a devotee of Bhagawan Sri Sathya Sai Baba. The story of how he became a devotee and how he handled the entire situation regarding the Andhra Bank strike is fascinating in itself, and I promise to discuss it in detail in another video. For now, suffice it to say that he was receiving personal guidance from Swami to deal with this unprecedented strike situation.

Swami Saved Gopal Rao's Life

Gopal Rao was in Hyderabad when the Prime Minister, Mrs. Indira Gandhi, summoned him. Swami was also in Hyderabad at the time. When Gopal Rao sought Swami's permission to leave Hyderabad in response to the Prime Minister's call, Swami said, "Do not go." That was enough for the devotee Gopal Rao; he decided not to go. He sent a message to the Prime Minister of India—the 'Iron Lady'—stating that he would not be coming.

Smt. Indira Gandhi

Sh. Gopal Rao

What followed was truly magnificent and extraordinary. As a devotee of Bhagavan Sri Sathya Sai Baba, Gopal Rao held Swami's words above all else; thus, the fact that the Prime Minister was summoning him did not matter to him. He simply said, "I am not coming." Later, he received a call directly from the Prime Minister, who asked why he was disobeying a direct order. He replied, "I am not disregarding a direct order; rather, I am obeying the direct command of

A picture of the strike called by the labor union

the supreme authority of the universe—my God, Bhagavan Sri Sathya Sai Baba. He is my God and my Guru, and I cannot go against His word." The power of selfless love for the Divine instills such a remarkable sense of fearlessness that one ceases to worry or care whether the person before them is the Prime Minister or anyone else in the world; for this conviction stems from a power that transcends this world—a power beyond the universe itself.

The then VP Shri B.D. Jatti (right) with Bhagavan Sri Sathya Sai Baba

Anyway, there was nothing more for Mrs. Indira Gandhi to do regarding that matter at the time, so she let the issue rest there. The next day, Mr. Gopal Rao received another call from the Prime Minister—this time to offer congratulations. She remarked that it was fortunate he had not made the trip, as gunmen had been hired to shoot him. These gunmen had been selected by the labor union. In all likelihood, they would have been arrested, but had he gone to Delhi, his life could have been in danger.

I have recounted this incident as described by Mr. Nageshwar Rao, a professor and teacher in the Department of Chemistry at the Sri Sathya Sai Institute of Higher Learning. He was also a student of Bhagavan and has mentioned this incident in his article, just as Mr. Gopal Rao had narrated it to him.

At that time, Shri Gopal Rao's life was saved. He lived a full and complete life in the presence of the Divine. I remember that Swami organized a special event for his 100th birthday. He honored him in Sai Kulwant Hall. It was a wonderful sight to see Shri Gopal Rao and Swami seated together on the dais, conversing with each other. When a devotee surrenders their life to Swami, Swami takes care of everything. I believe that, at that moment, even the Prime Minister must have realized the true nature of the Divine.

When Vice President Shri B.D. Jatti Waited

A few years later, a similar situation was to arise—if I may put it that way. It was a critical situation. There was an urgent matter on which Prime Minister Smt. Indira Gandhi had to make a decision, and the Vice President of India at the time was Shri B.D. Jatti, a devotee of Bhagawan Sri Sathya Sai Baba. I believe he advised the Prime Minister—who was still Indira Gandhi—that it would be beneficial to seek Baba's blessings and counsel on the matter; consequently, a delegation traveled from New Delhi to Whitefield to meet Swami.

Shri B.D. Jatti arrived with clear instructions from the Prime Minister to consult Swami regarding a proposal by that very night, as the Prime Minister had to make a decision the following morning. He reached 'Vrindavan', Swami's ashram in Whitefield, Bangalore. Swami was present there at the time, accompanied by several local leaders—including the then Chief Minister of Karnataka, Shri Devaraj Urs, who is also a devotee of Bhagavan Sri Sathya Sai Baba.

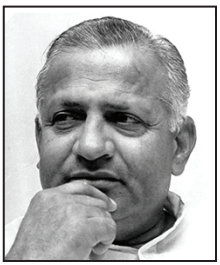
By the time they reached the ashram, evening had already set in. The evening *darshan* session had concluded, and Swami had retired to his room. Consequently, upon arriving at the gate, they met Swami's devoted caretaker, Shri Ramakrishna (Ram Brahma). Shri Ram Brahma is a legend—if you do not know about him, let it be known that he is a legend. He is truly like Hanuman to Swami.

So, Ram Brahm comes and says, "Sir, no one is allowed to go inside."

"Excuse me, this is the Vice President of India; the state's Chief Minister and several other officials are with him."

But as I said, he was a devotee of the Swami, so he was very humble. He said, "This is very important. I have to submit a report to the Prime Minister tomorrow morning, so it is crucial. Please let us in."

He said, "No, no. You might have to submit a report to the Prime Minister or the President—I don't know—but you cannot go inside. I cannot allow it. It is Swami's order. You cannot enter unless he says so. You can only go inside by stepping over my dead body."



Sh. Devaraj Urs

The humble Shri B.D. Jatti—for such is the great quality of a devotee—humbly asked Ram Brahma, "Please tell us what we should do now."

Sri Ramakrishna (Sri Ram Brahma)

Then Ram Brahma said to them, "Listen, please sit outside and chant 'Sri Sai Ram, Sri Sai Ram, Sri Sai Ram.' This is the only way you can call upon the Lord." Thus, the official delegation from New Delhi sat outside Swami's room and began chanting "Sri Sai Ram." Perhaps half an hour had passed when there was a knock on Swami's door from the inside; it was Swami knocking to summon Ram Brahma.

Swami said to Ram Brahma, "Jatti has arrived. He needs to discuss an urgent matter. Tell him I am coming soon and ask him to wait."

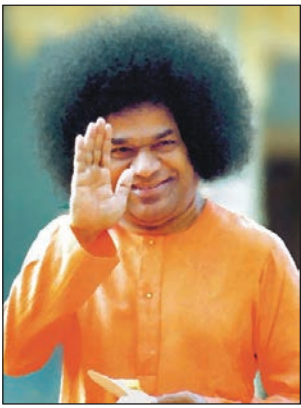
So, Ram Brahma ran outside and informed Shri B.D. Jatti that Swami had said He was coming. Sure enough, within a few minutes, Swami came out and invited the entire delegation inside. I do not know what transpired within, but Shri B.D. Jatti, Shri Devaraj Urs, and the entire delegation emerged satisfied.

I imagine they must have briefed Prime Minister Smt. Indira Gandhi on what had occurred. I am also certain they recounted the full sequence of events—how they had been unable to gain entry even by invoking the Prime Minister's orders, and how they had succeeded only through devotion.

These were two instances where Prabhu clearly did not accede to Indira Gandhi's wishes; yet, I feel that in one way or another, he established a new identity in her eyes. He emerged as a man worthy of respect and reverence—rising to a stature akin to the divine, even in the estimation of that stern Prime Minister.

Dear brothers and sisters, one thing becomes absolutely clear from these two incidents: that God is the supreme power in this universe. Yet, at the same time, God's greatest weakness is His devotee. A devotee's love and sincere prayers always move the Lord to help, to rush to their aid, and to respond. We are all familiar with the story of Gajendra from the Bhagavatam—how, when that elephant called out...

"Since the elephant had been seized by a crocodile, it is said that Lord Vishnu—who was resting with Goddess Lakshmi at the time—rushed immediately to his aid, without a thought for preparation or proper attire." "Because the call of devotees can never be ignored, how fortunate we are to have such a loving Lord, always ready to respond to our very first call. When it was said, 'Lord, we are all Your slaves; we are all Your servants, ready to serve You,' the Lord replied, 'No, no, I am your slave; I am your servant, waiting to answer your call and serve you.'"



Oh Swami, we are deeply grateful to have You in our lives—the most powerful and loving Being in the universe, ever ready to serve us. Beloved Swami, may the love we hold for You in our hearts grow stronger with every passing moment. Thank You. Jai Sai Ram.

This sermon was uploaded to YouTube on October 14, 2024; click the provided link to watch the video: https://www.youtube.com/watch?v=k1BCDEH77eM

When you accept service to humanity as your religion, you start feeling God within yourself, then you do not need to search for God in any temple or mosque.

METACOR

ISO 9001: 2015

CORK POWDER

For Mold Coating

- It has a finer Texture & prepared for the higher casting speeds & temperatures.
- It is designed to make battery plate Grid casting application easier.

CONTACT US

Call: + 91 9312285580

www.metacor.in

Regd. No. R.N. 43092/85
Postal Registration No. DL(E)-20/5557/2023-25, DL(DS)-52/MP/2025-26-27
Vol.41 No.12, Issue 16-30 June 2026 *(Published on 26.06.2026)*

Printed and Published by Chandra Mohan on behalf of Battery Directory & Year Book, 510, Janta Flats, GTB Enclave, Delhi-110093 and Printed at M/s JJ Imprints Pvt. Ltd., A-24, Sector-68, Gautam Buddha Nagar, Noida-201301, UP and Published at Battery Directory & Year Book, 510, Janta Flats, GTB Enclave, Delhi-110093. Editor: Chandra Mohan

Contents