METNMAT

ONE STOP SOLUTION TO INDUSTRIAL PROBLEMS

About Us

We develop innovative products and solutions focused around broad areas of Metallurgy and Materials Science for our clients. We work tirelessly to help industries, research institutions and government bodies, invent and expand their technical capabilities. Our mission is to make applied research & development Affordable, Accessible & Accelerated.

Our Services

Product and Process Development

Technology development & transfer

Prototype to industrial scale implementation

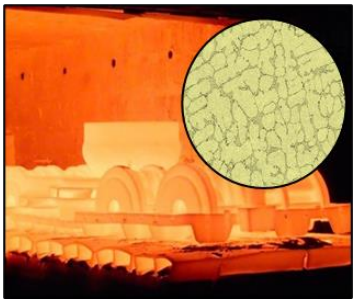
Applied Research & Consultancy

Turnkey solutions to industrial problems

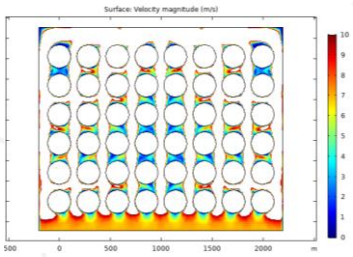
Process improvement in terms of cost, quality & efficiency

Material Characterizations & Analysis (SEM, XRD, EBSD, TEM etc.)

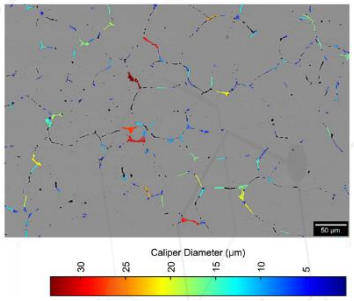
Few R&D Projects



Microstructure Control & Heat Treatment: Optimization of multi-phase microstructure to obtain suitable volume fraction, morphology and distribution of different phases through heat treatment. The engineered microstructure imparted one or combination of strength, ductility, wear resistance and other properties as per application.



Modeling & Simulations: Empowering industries to design & develop their process & product using advanced modeling & simulations. This helped industries in taking informed decisions, lowering manufacturing costs and improving product quality.



New Alloy Development: Based on the end application and desired properties we have designed various alloys with precise composition control, thermo-mechanical processing and performance tests. We provide end to end solutions and ensure that the technology can be easily implemented at the industrial scale.

Corporate Address: 1st Floor, 194B/1A, Satin Sen Sarani, Maniktala Main Road, Kankurgachi, Kolkata-700054

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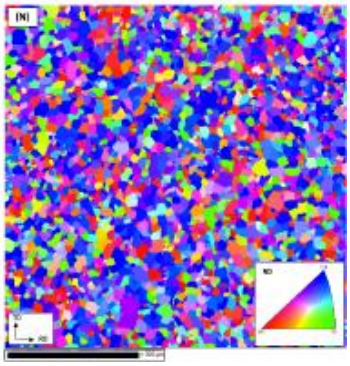
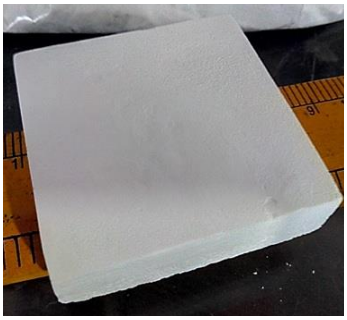


Texture Analysis of Ferritic Stainless-Steel Sheet to Improve Deep Drawability: Deep drawability of ferritic stainless steel is improved by increasing the r-value which depends on microstructure & recrystallization texture. Multistage thermo-mechanical processing has been performed to impart homogeneous distribution of <111>|| ND oriented



High Temperature Alumina Insulation Fiber Board: Insulation materials used in furnace lining is fabricated to withstand high temperature of around 1800°C, having very low shrinkage and thermal conductivity at high temperature. The technology improves the furnace insulation, reduces dependency on foreign imports & enables the furnace manufactures to make the material inhouse.

Development of Oxygen-free High Strength Electrical Copper Alloy: Addition of suitable alloying element in copper to ensure complete solid solubility followed by rapid quenching. Treating the melt with a suitable mix of de-oxidizers to prevent loss of alloying elements. Further 60-90% cold reduction to impart strength, followed by aging treatment to improve electrical conductivity to about 91-93% IACS.

Collaborations

IIT Kharagpur

JNARDC

IIT Jodhpur

IIEST Shibpur

NITTR Kolkata

Supported By

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Core Team

Anisha Banka
Co-Founder, Director
B. Tech, M. Tech,
IIT Kharagpur

Mukesh Kumar
Co-Founder, Director
B. Tech, IIT Kharagpur,
Ex Manager, TATA STEEL

Lab Facilities

Induction Melting Furnace (upto 300Kgs)
High Temperature Muffle Furnace (upto 1800°C)
Electric Melting Furnace (upto 1200 °C)
Melt Stirring & Purging Setup
Metallography Polishing Setup
Micro Vicker's Hardness Tester
OES Spectrometer
Oxygen Analyzer

Major Clients

JSL JINDAL STAINLESS
vedanta transforming elements
TATA STEEL
ADITYA BIRLA HINDALCO
runaya
BHATIA ALLOY

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