ASOKA PRIMEX
PRIVATE LIMITED

Ferro Silicon Megnesium
Inoculants
Ferro Silicon

FeSiMg * Inoculants * Master Alloys * Cored Wire

in collaboration with the **PRODUCERS** directly

About Us

Asoka Primex Pvt. Ltd. has collaborated with the following company as the authorised export sales and marketing partner for LC SiMn, LC FeMN ,FeSi, FeSiMg, Inoculants, Master Alloys,Cored Wire and allied products manufactured in Bhutan.

PRODUCTS WE OFFER

- FERRO SILICON MEGNESIUM
- INOCULANTS
- FESI 65-75 % MAX
- LC SIMN
- LC FEMN

WHAT WE OFFER FROM BHUTAN

FERRO SILICON

FERRO SILICON MAGNESIUM

INOCULANTS

LC SIMN

ASOKA PRIMEX

About us

ISO certified manufacturer of FeSiMg , Inoculants & FeSi

Our partner is a leading Ferro Silicon producer in Bhutan, producing high-quality Ferro Silicon products for global markets. They are **ISO certified** and specialize in Ferro Silicon-Magnesium and Inoculants. Their innovative manufacturing process **reduces carbon footprint**. Nodularizer includes elements like Mg, Ce, and Ca, while Inoculants contain elements like Al, Ca, Ba, and Mn to promote graphite precipitation and growth.

- FeSiMg
- Inoculants
- FeSi
- SIMN LC

Asoka Primex

Inoculants

Inoculants are specialized FeSi alloy containing controlled amounts of one or more elements, including Al, Ca, Ba, Sr, Ce, Ca, La, Mn, and Zr. The inoculant provides nucleation sites that promote graphite precipitation and growth, together with iron solidification based on a stable Fe-C system.The purpose of inoculation is to promote heterogeneous graphite nucleation by introducing elements that form suitable substrates that will act as nuclei and initiate graphite growth. By promoting a stable solidification process, inoculation encourages C to come out of solution in a favorable form of graphite and not as iron carbide.

Product	% Si	% Ca	% Ba	% Sr	% Zr	% Ce	% Mn	% Al	% Ti
SDIN 13	70 - 75	0.5 - 1.5	-	-	-	-	-	3.5 - 4.5	0.07 Max
SDIN 14	70 - 75	-	-	-	-	-	-	1.5 Max.	0.07 Max
SDIN 20	68 - 72	0.8 - 1.2	-	-	-	-	-	1.0 - 1.5	0.07 Max
SDIN 56 H	69 - 72	1. 0 - 2.0	2.5 - 3.0	-	-	-	-	0.8 - 1.5	0.07 Max
SDIN 56 N	67 - 70	1. 0 - 2.0	2.0 - 2.5	-	-	-	-	0.8 - 1.5	0.07 Max
SDIN 56 R	69 - 72	0.4 - 0.6	0.5 - 1.5	-	-	-	-	1.2 Max	0.07 Max
SDIN 56	69 - 72	0.80-1.4	1.5 – 2.0	-	-	-	-	0.75 - 1.25	0.07 Max
SDIN 56 L	46 - 50	0.4 - 0.6	1.8 - 2.2	-	-	-	-	0.5 - 1.0	0.07 Max
SDIN 56 L1	46 - 50	0.4 - 0.6	0.75 - 1.25	-	-	-	-	0.6 Max	0.07 Max
SDIN 56 L2	46 - 50	0.75 - 1.25	0.75 - 1.25	-	-	-	-	0.75 - 1.25	0.07 Max
SDIN 56 L3	46 - 50	0.4 - 0.9	4.8 - 5.2	-	-	-	-	1.0 Max	0.07 Max
SDIN 40	62 - 69	0.6 - 1.9	-	-	3.0 -5.0	-	-	3. 0 - 5.0	0.07 Max
SDIN 58	70 - 76	0.75 - 1.25	-	-	-	1.5 - 2.0	-	0.75 - 1.25	0.07 Max
SDIN BMZ	62 - 69	0.6 - 1.9	0.3 -0.7	-	3.0 - 5.0	-	2.8 - 4.5	0.55 - 1.3	0.07 Max
SDIN 38	73 -78	0.1 Max	-	0.6 - 1.0	-	-	-	0.5 Max	0.07 Max
SDIN 38 L	46 - 50	0.1 Max	-	0.7 - 1.1	-	-	-	0.5 Max	0.07 Max
SDIN 38 H	73 - 78	0.1 Max	-	0.9 -1.2	-	-	-	0.5 Max	0.07 Max
SDIN 3840	73 - 78	0.1 Max	-	0.6 - 1.0	1.0 - 1.5	-	-	0.5 Max	0.07 Max
SDIN 58 SO	70 - 76	0.75 - 1.25	-	-	-	1.5 - 2.0	-	0.75 - 1.25	0.07 Max
SDIN 40 SO	73 - 78	2.0 - 2.5	-	-	1.3 - 1.8	-	-	1.0 - 1.5	0.07 Max
FeSi Powder	65 - 70	0.3 Max	C: 0.1 Max	P: 0.03 Max	S: 0.03 Max	-	-	1.5 Max	

FeSiMg

Nodularizer generally refers to some metal (have tendency to spheroidize the graphite phase) or alloy additives added to molten iron to obtain spheroidal graphite cast iron. Elements such as Mg, Ce, and Ca can be used as the main components of the spheroidizing agent.

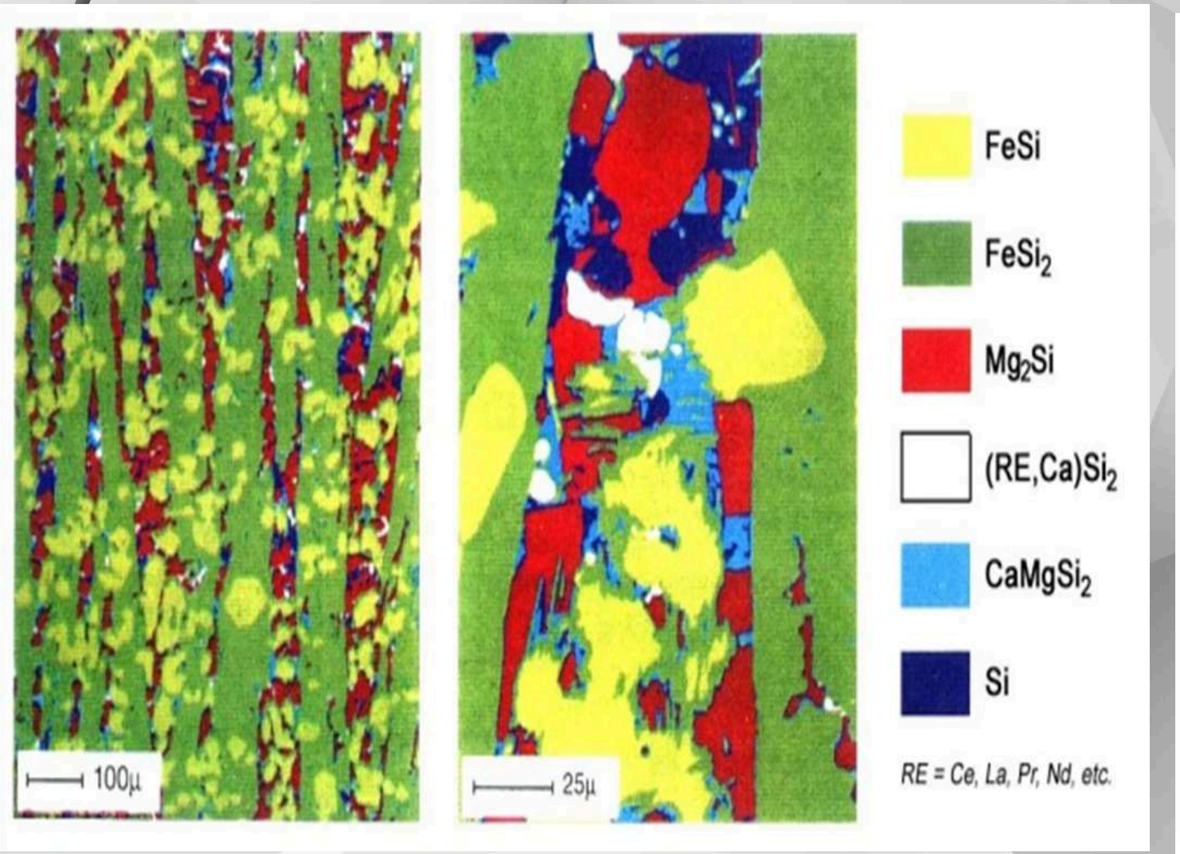
Nodularizing agent is the critical material that spheroidal graphite cast iron is produced, and its tissue, performance and stable processing technique, production cost etc. to magnesium iron has great effect.

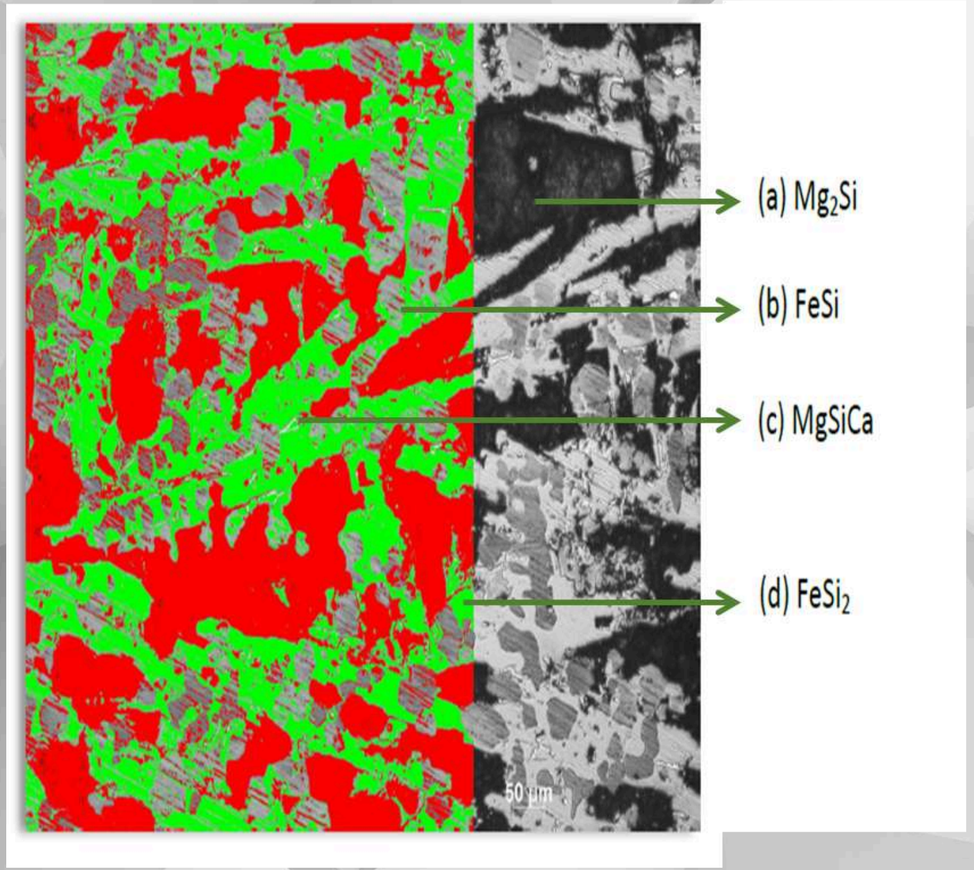
Product	% Si	% Mg	% Ca	% TRE	% La	% Al
SDMAG 350810	44 - 48	3.2 - 3.8	0.8 - 1.2	0.7 - 0.9	-	0.8 Max
SDMAG 600533 La	44 - 48	5.8 - 6.2	3.0 - 3.5	-	0.4 - 0.6	0.8 Max
SDMAG 631015	44 - 48	6.0 - 6.5	1.3 - 1.7	0.9 - 1.1	-	0.8 Max
SDMAG 631020	44 - 48	6.0 - 6.5	1.9 - 2.1	0.9 - 1.1	-	0.8 Max
SDMAG 630520 La	44 - 48	6.0 - 6.5	1.8 - 2.2	-	0.4 - 0.6	0.8 Max
SDMAG 630533 La	44 - 48	6.0 - 6.5	3.0 - 3.5	-	0.4 - 0.6	0.8 Max
SDMAG 651922	44 - 48	6.5 - 7.0	1.8 - 2.4	1.7 - 2.0	-	0.8 Max
SDMAG 680520 La	44 - 48	6.5 - 7.0	1.8 - 2.2	-	0.4 - 0.6	0.8 Max
SDMAG 721015	44 - 48	7.0 - 7.5	1.3 - 1.7	0.9 - 1.1		0.8 Max
SDMAG 721020	44 - 48	7.0 - 7.5	1.8 - 2.0	0.9 - 1.1		0.8 Max
SDMAG 721225	44 - 48	6.9 - 7.4	2.3 - 2.7	1.1 - 1.3	-	0.8 Max
SDMAG 741119	44 - 48	7.0 - 8.0	1.7 - 2.1	1.0 - 1.2	-	0.8 Max
SDMAG 751422	44 - 48	7.0 - 8.0	2.0 - 2.4	1.3 - 1.5	-	0.8 Max
SDMAG 811111	44 - 48	8.0 - 8.5	0.9 - 1.3	1.0 - 1.2	-	0.8 Max
SDMAG 811112	44 - 48	8.0 - 8.5	1.0 - 1.4	1.0 - 1.2	-	0.8 Max
SDMAG 810530 La	44 - 48	8.0 - 8.5	2.8 - 3.2	-	0.4 - 0.6	0.8 Max
SDMAG 851215	44 - 48	8.5 - 9.0	1.3 - 1.7	1.1 - 1.3	-	0.8 Max
SDMAG 901010	44 - 48	8.5 - 9.5	0.8 - 1.2	0.9 - 1.1	-	0.8 Max
SDMAG 902020	44 - 48	8.5 - 9.5	1.8 - 2.2	1.8 - 2.2	-	0.8 Max
SDMAG 910520 La	44 - 48	9.0 - 9.5	1.8 - 2.2	La: 0.40 - 0.6	0.4 - 0.6	0.8 Max
SDMAG 931015	44 - 48	9.0 - 10.0	1.3 - 1.7	0.9 - 1.1	-	0.8 Max
SDMAG 931020	44 - 48	9.0 - 10.0	1.3 - 1.7	0.9 - 1.1	-	0.8 Max
SDMAG 931025	44 - 48	9.0 - 10.0	2.3 - 2.8	0.9 - 1.1	-	0.8 Max
SDMAG 951520	44 - 48	9.0 - 10.0	1.8 - 2.2	1.4 - 1.6	-	0.8 Max
SDMAG 951819	44 - 48	9.0 - 10.0	1.8 - 2.0	1.7 - 2.0	-	0.8 Max
SDMAG 110520 LA	44 - 48	10.5 - 11.5	1.8 - 2.2	-	0.4 - 0.6	0.8 Max
SDMAG 150020	43 Max	14.0 - 16.0	1.8 - 2.2	-	-	0.8 Max

** Standard size: Fraction: 2 – 5mm, 2-10 mm , 2 - 15 mm, 5 - 15, 5 - 20 mm, 5 - 25 mm, 5 - 30 mm, 10 - 25 mm, 10 - 30 mm etc

Micro-structural Studies

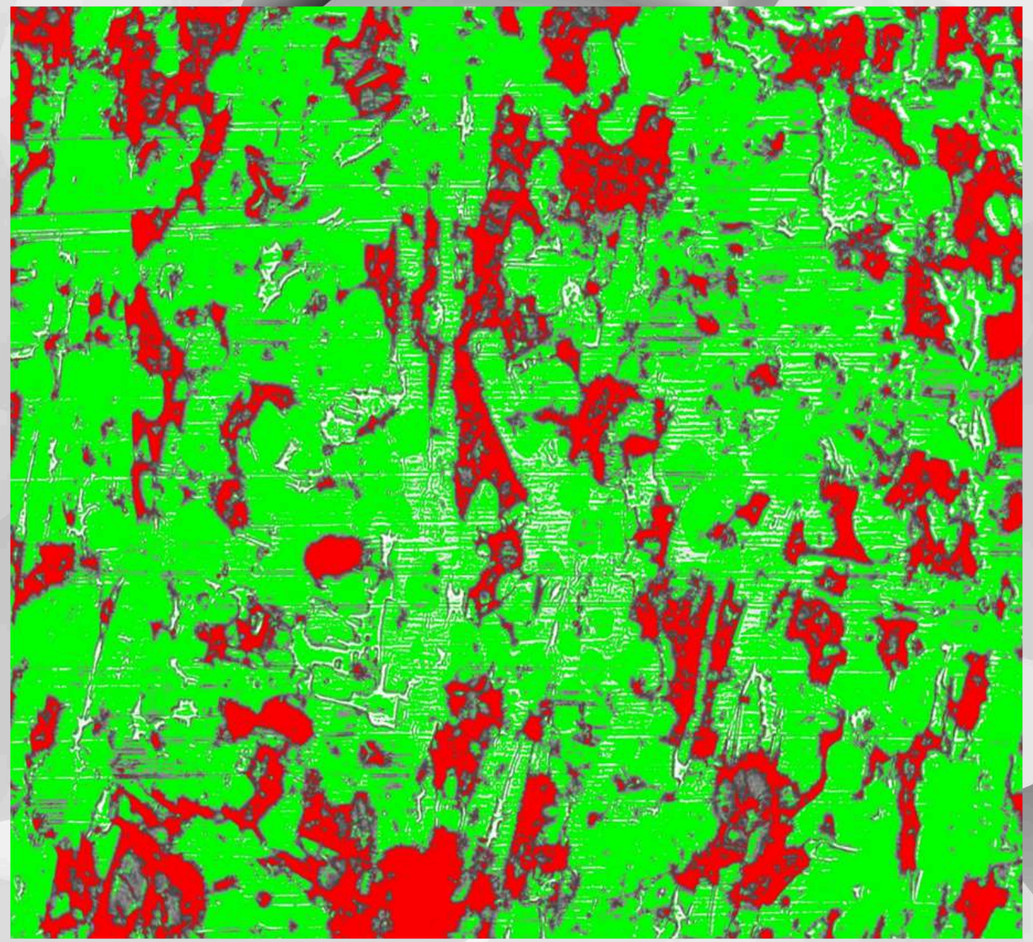
Typical micrograph of FeSiMg



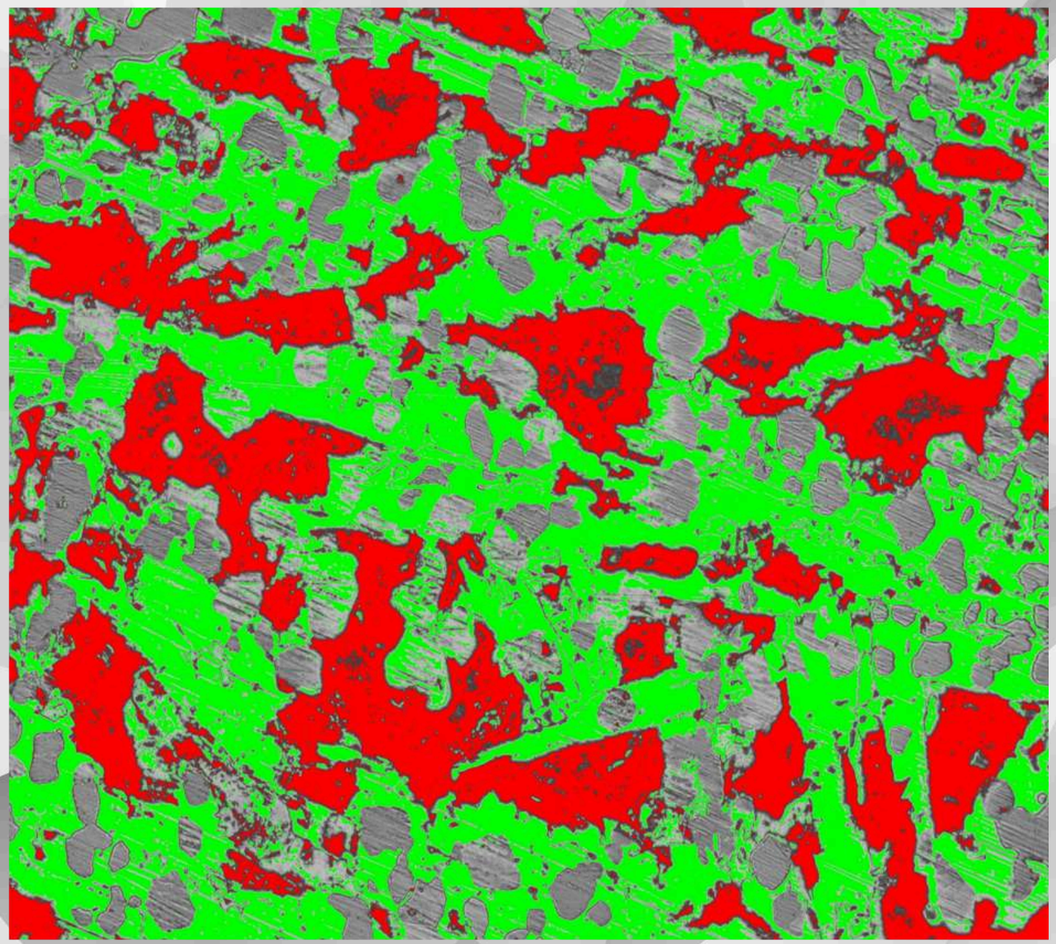


Comparative Microstructure

- Regular FeSiMg



- HP FeSiMg



- High concentration of Mg2Si phase in HP FeSiMg alloy
- Uniform distribution of phases, improve the overall yield and Mg retention

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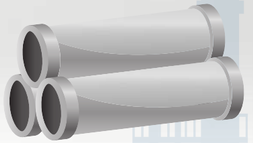
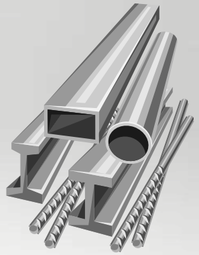
Industries We Supply

Foundry & Steel Melting

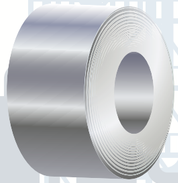
Gray Iron Casting



DI Pipes and Others



SS & MS steek Structures



Stainless Steel Hot & Cold Rolls Coils

Specialized Components & Castings

Auto Spares and Components

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Production Capacity in Bhutan per Month

Lc SiMn - **3500mt** Fesi - 75% - **500mt** Inoculants- **500mt**

Fesi other - **4500mt** Fesi-Mag - **1200mt**

We are coming up with more furnaces which will increase our net supply with additional 5000mt per month combined all products.

Sizing and Crushing Machines




FeSi Mg & Inoculant Furnance



Process Control

- Consistent Quality Raw Materials
  Inclusions / oxides / impurities / tramp elements
- Melting Parameters Control
  Melt Temp. / RM weighing
- Alloying Parameters Control
  Ladle Temp. / Alloying elements weight /Tapping Temp.
- Casting Parameters Control
  Cast thickness/ pouring rate / mould Temp.
- Sizing Parameters Control
  Size distribution / bulk density
- Packing Parameters Control
  Weight / bag identifications

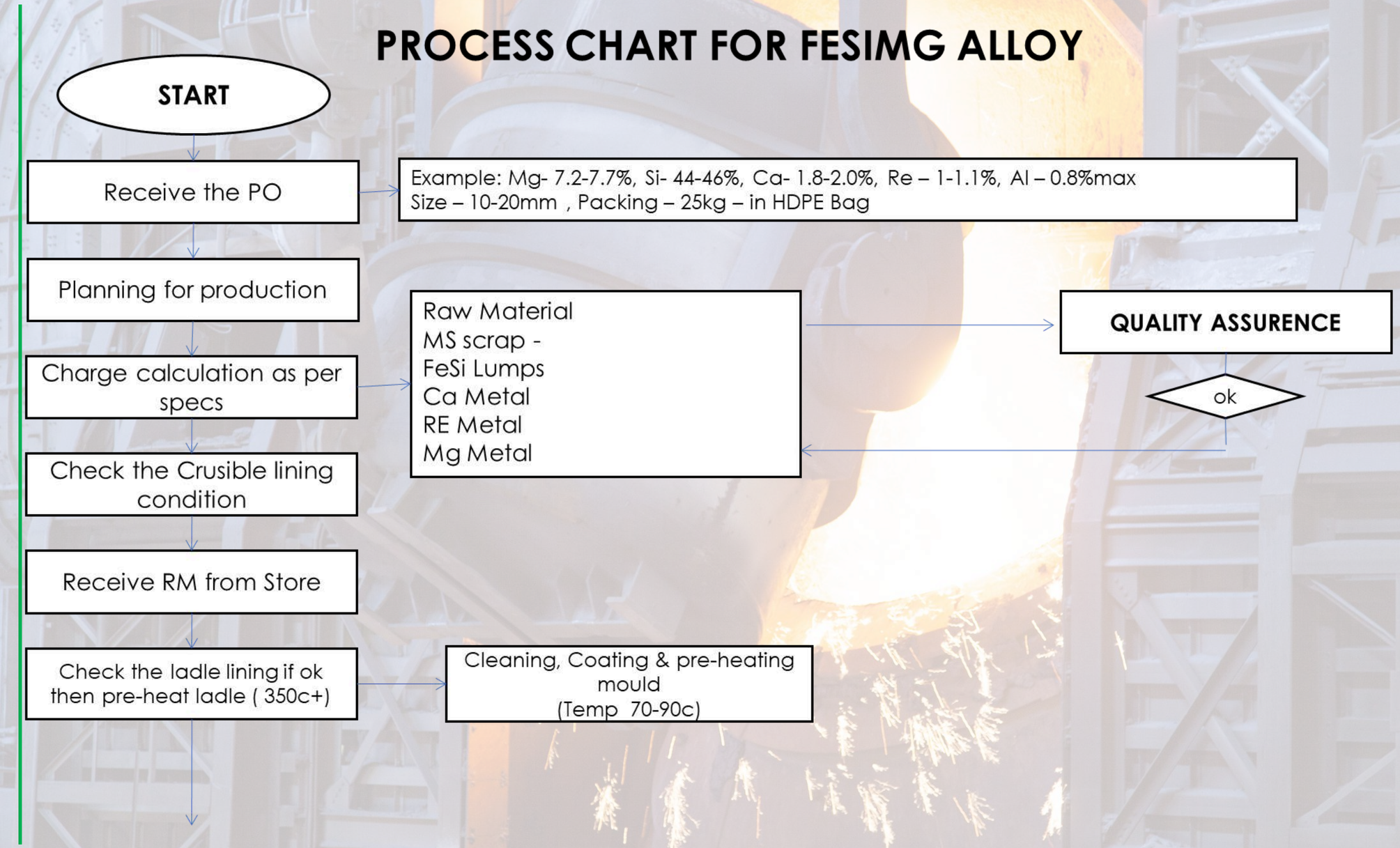
Quality Control

- Quality control & International recognized Quality assurance Standards are an integral feature of Minex's manufacturing processes.
- All the facilities are covered under ISO 9000 certification.
- The central Laboratory fully equipped with state of art analytical equipments like :
  - Advance WD XRF
  - Carbon analyzer
  - Wet chemical laboratory
  - Microscopy and Metallography
  - Phase Analysis
  - LECO – Gas Analyzer (New Project)

Rigaku ZSX Primus IV

Optical Microscopy

PROCESS CHART FOR FESIMG ALLOY



PROCESS CHART FOR FESIMG ALLOY

Weighing the RM as per charge

Charge the Ms Scrap

Start the I/F panel

Charge furnace sequently Ms Scrap & FeSi 75%

After melting the take temp as per grade

Liquid pour in ladle

Add inclusion modifier & remove the slag

Control Parameters for Melting

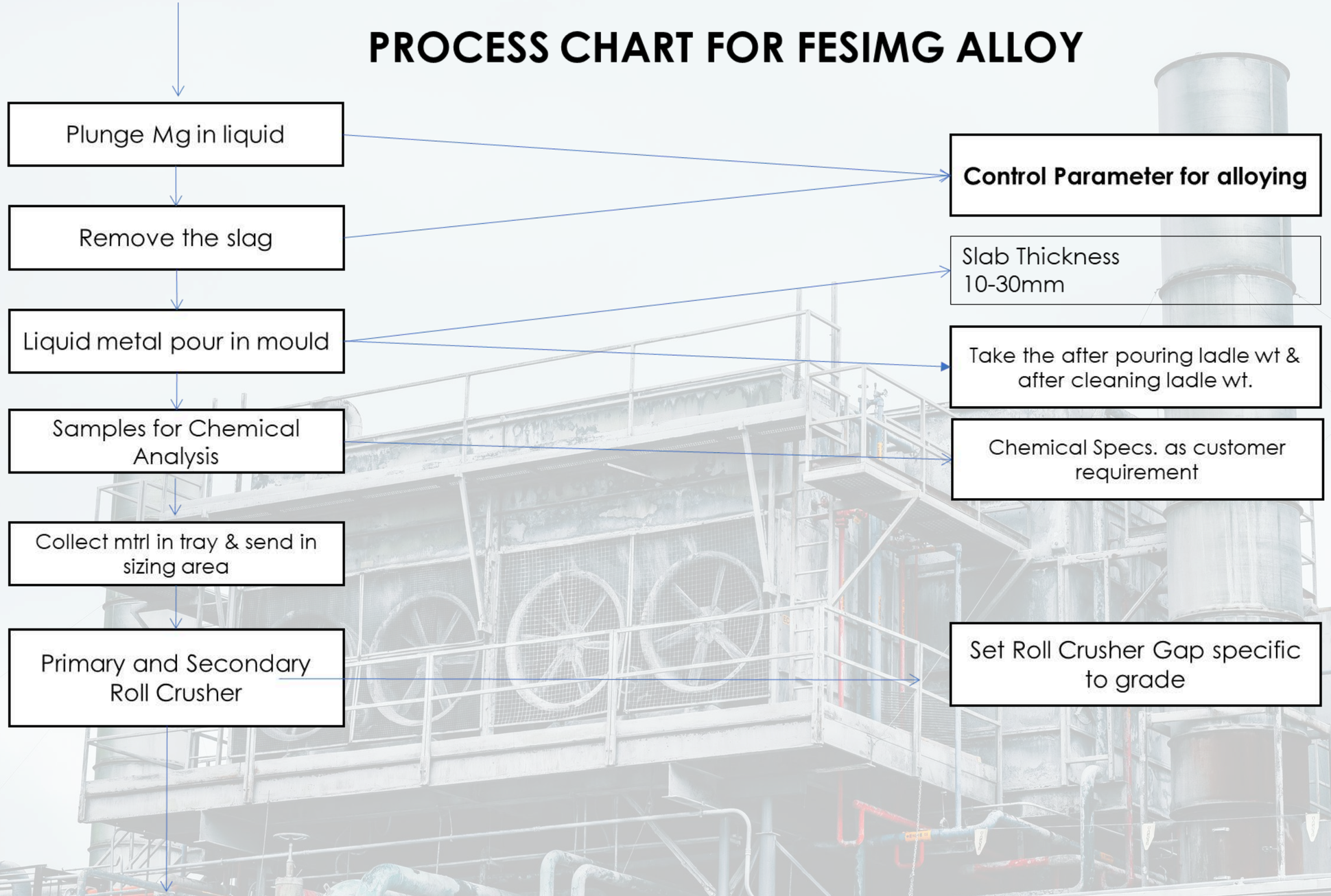
Note heat No & Lining No. Meter Reading

Mg welded as per liquid charge

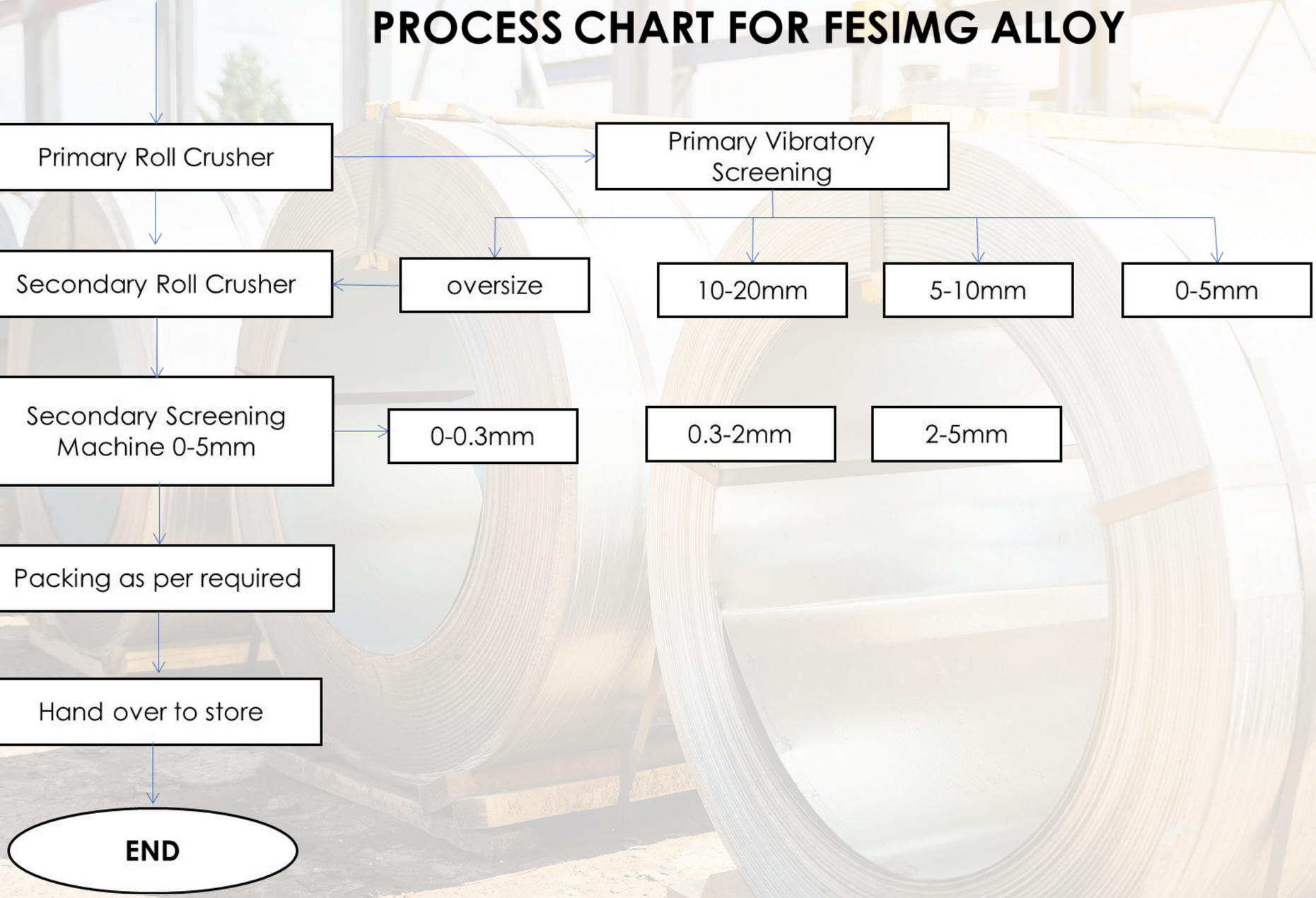
Temp range – 1440-1460C

Take initial ladle wt & charge Ca Mg & RE M

PROCESS CHART FOR FESIMG ALLOY



PROCESS CHART FOR FESIMG ALLOY



Research & Development

- Process control, process improvement and process standardization of existing products to improve Quality, performance, Consistency and Cost reduction.
-
- Development of new products, process and their applications.
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- Re - engineering & Mapping of application of all existing products and customer’s process to enhance the alloying capability by process improvement.
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- Mapping all the new possibilities for application of existing products and development of cost effective sustainable materials

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