Mishra Enterprise

AARYA
METALLURGICALS INDIA PRIVATE LIMITED

IRON & STEEL INDUSTRY

MONOLITHIC & PRECAST

AARYA METALLURGICAL (INDIA) PRIVATE LIMITED

We offer Customised Refractory Solutions to Iron and Steel Industry

Innovative Refractory Solutions from Aarya Metallurgical

We are one of the globally recognised suppliers of high performance refractory products and other steel plants raw-materials. Over two decades of sourcing experience from China, we bring to our valued customers very cost-effective propositions. With our new manufacturing facility for monolithic and precast-shapes at Raigarh (India), we are better positioned to reach out to our customers in the geography.

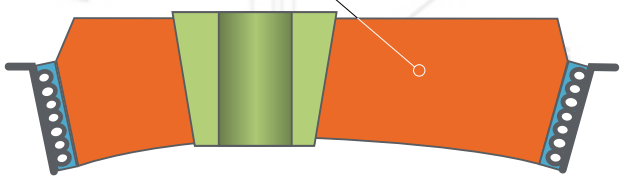
Secondary metallurgy is increasingly gaining currency in steel-making. The important functions of secondary refining are desulphurization, degassing of oxygen, nitrogen, hydrogen, etc., removal of inclusions, and decarburisation at finishing stage.

Secondary refining processes are performed at atmospheric pressure or under a vacuum, with or without heating, solids and/or gas injection and stirring. Main stresses are corrosion (during metallurgical treatment), hot abrasion in circulation devices (RH), high temperature (during reheating treatment) and thermal shock.

Our solutions include high-performance Refractory materials for the various equipment and their accessories for Iron & Steel Making including that of secondary metallurgy.

Solutions for the EAF, LF & LF/VD and VOD roof

AARYAMET CAST C 90 P
AARYAMET CAST B 80 V
AARYAMET CAST C 90 V



P	*Precast*
G	*Gunned*
SF	*Self-Flow*
V	*Vibrated*

Solutions for RH & RH-OB Upper Vessel

Roofs

CASTING

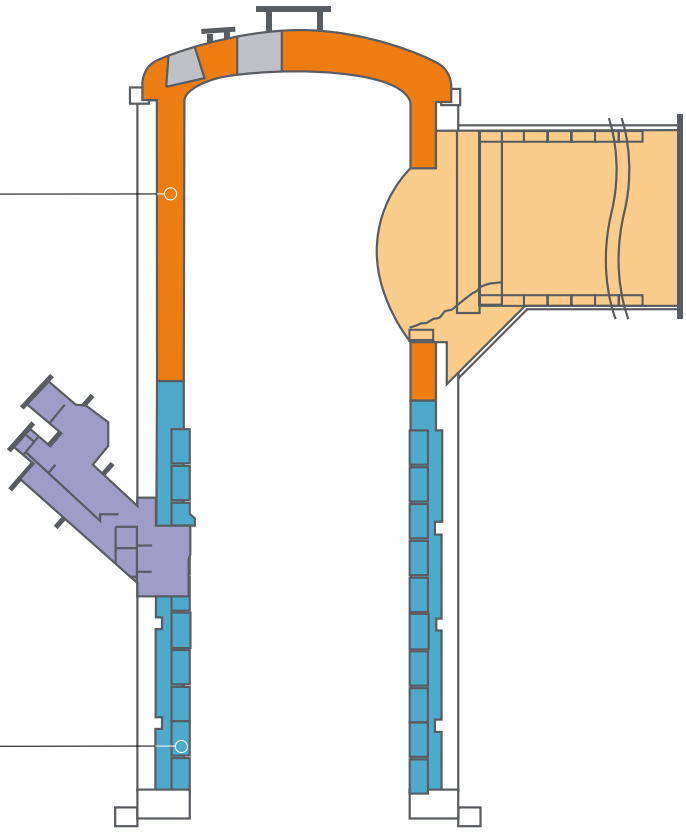
AARYAMET CAST TA 95 V

GUNNING

AARYAMET GUN TA 95 G

REPAIR

AARYAMET GUN B 80 G

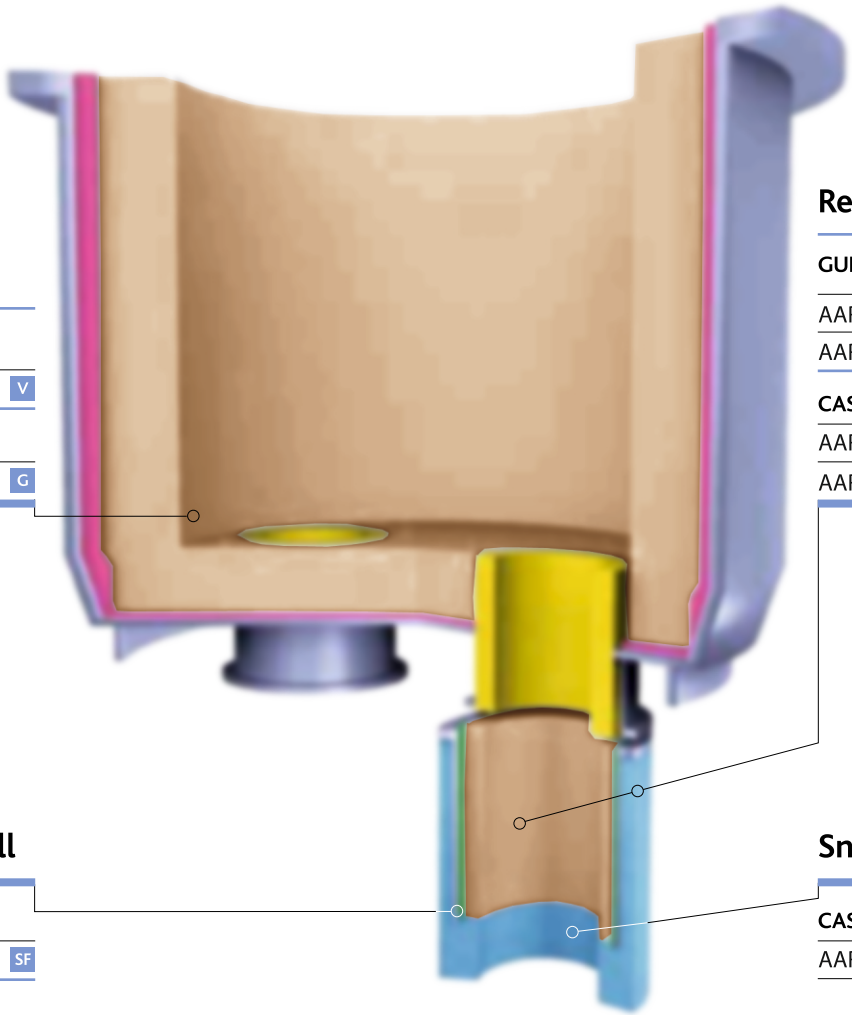


Lower part

REPAIR

AARYAMET GUN TA 90 G

Solutions for the RH



Lower vessel cold repair

CASTING

AARYAMET MAG CAST 90 V

GUNNING

AARYAME MAG GUN 89 G

Repair outside/inside

GUNNING

AARYAMET GUN B 70 G

AARYAMET MAG GUN 82 G

CASTING

AARYAMET FLOW TA 88 SF

AARYAMET FLOW TA 92 SP SF

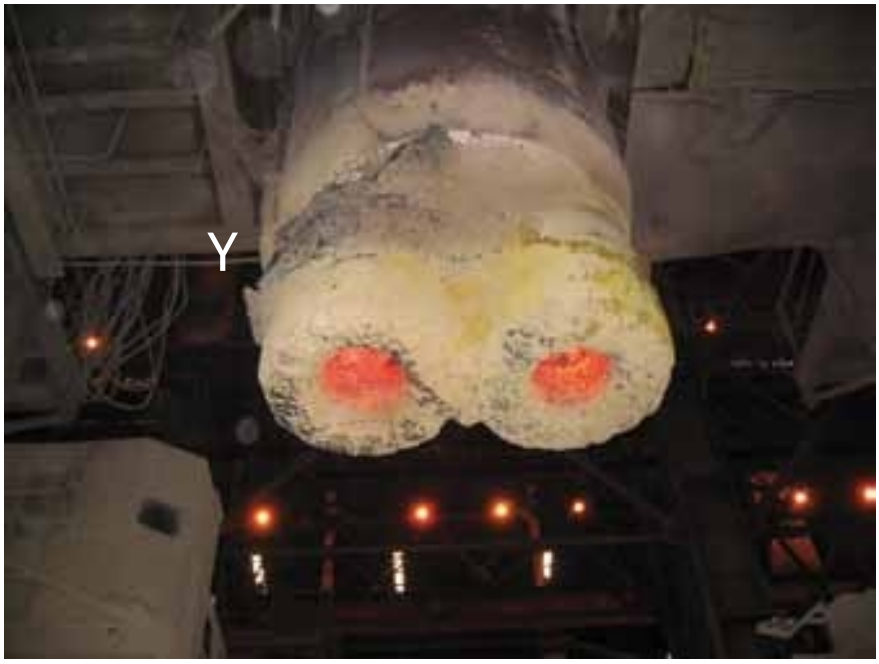
Blockage bricks/shell

AARYAMET SFLOW ZM SF

Snorkel

CASTING

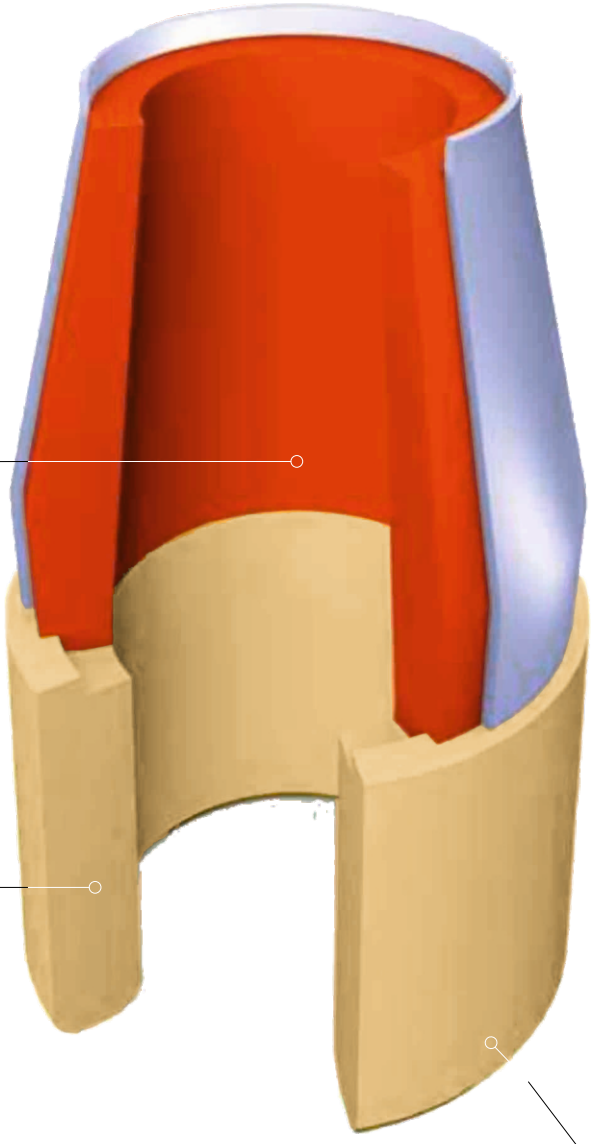
AARYAMET CAST TA 95 V



Solutions for the CAS-OB

Upper part

AARYAMET CAST B 80 V



Lower part

AARYAMET CAST TA 95 V

AARYAMET CAST 96 SP V

AARYAMET MAG CAST 90 V

Repair

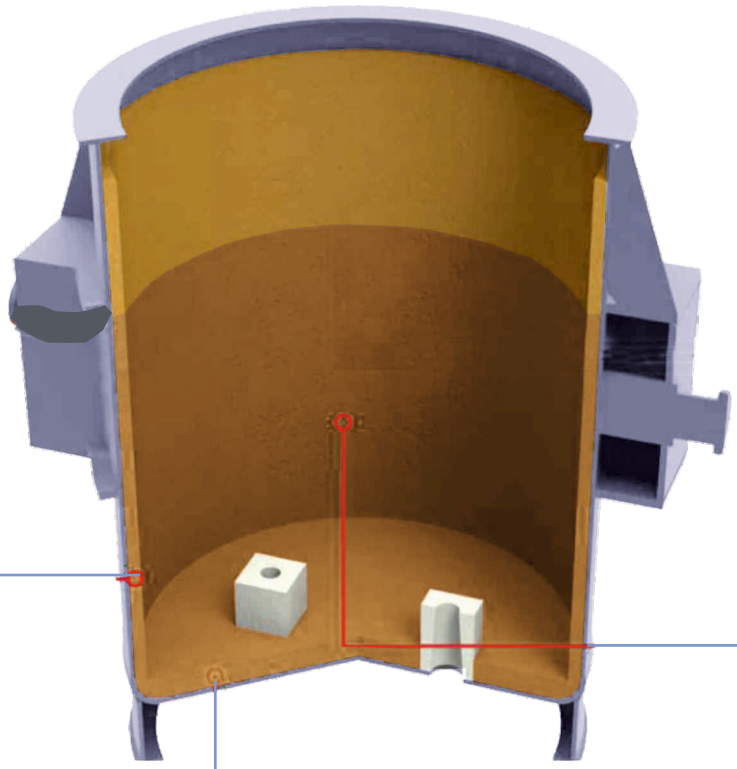
AARYAMET GUN B 80 G

AARYAMET MAG GUN 89 G

Monolithic Ladle Solutions

SAFETY LININGS

G *Gunned*
R *Rammed*
SF *Self-Flow*
v *Vibrated*



Backfill

v R AARYAMET LDL BACKFILL

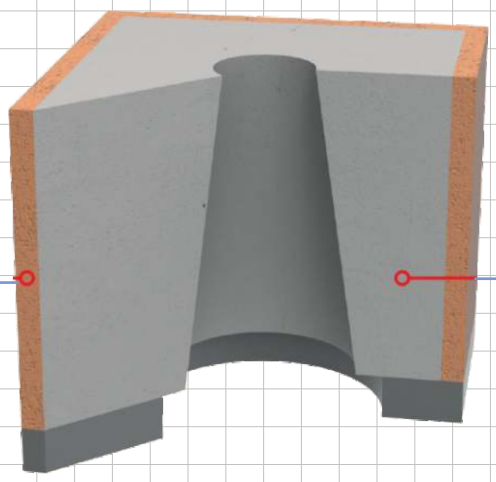
Barrel

AARYAMET CAST B 80 v
AARYAMET SFLOW B 80 SF

Bottom

v AARYAMET CAST B 80
SF AARYAMET SFLOW B 80

Ladle Well-Block & Seating-Block



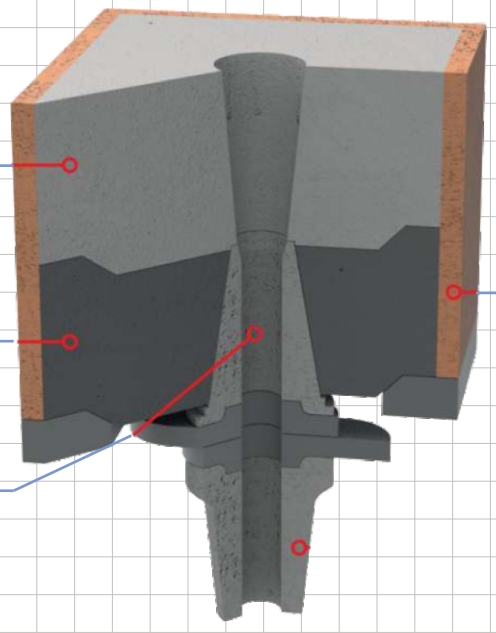
Joints

SF AARYAMET SFLOW TA 92 SP
V AARYAMET MAGRAM 95

Seating blocks

AARYAMET CAST 96 SP P

G *Gunned*
P *Precast*
R *Rammed*
SF *Self-Flow*
V *Vibrated*



Upper well blocks

P AARYAMET CAST 96 SP

Lower well blocks

P AARYAMET CAST C 90
P AARYAMET CAST B 80

Ladle Wellfiller

FF AARYAMET FLOW NOZZLE FILL

Joints

AARYAMET SFLOW TA 92 SP SF
AARYAMET MAGRAM 95 V

Technical Data

Basic Monolithics

Properties Product name		AARYAMET MAG CAST 90	AARYAMET MAG GUN 82	AARYAMET MAG GUN 89	AARYAMET MAG GUN 92
Main component		Magnesia	Magnesia	Magnesia	Magnesia
Binding system		Hydraulic	Chemical	Chemical	Chemical
Max. Service temp. (°C)		1750	1700	1750	>1750
Grain size (mm)		0-6	0-4	0-4	0-4
Chemical analysis (wt %)	Al_2O_3	-	-	1.70	1.5
	MgO	89	82	88.60	92
	SiO_2	4.50	9.30	6.30	5.5
	CaO	0.80	4	2.60	2.5
Bulk Density (gm/cm3)		2.80	2.05	2.10	2.10
Water required (%)		4.50 to 6	added at the nozzle	added at the nozzle	added at the nozzle
Permanent linear change (%)		-0.10 (1000°C)	-0.30 (1000°C)	-0.30 (1000°C)	-0.30 (1000°C)
CCS (N/mm2)		50 (1000°C)	0.80 (1000°C)	n.a.	n.a.

Castables

Properties Product name		AARYAMET CAST 96 SP	AARYAMET CAST TA 95	AARYAMET CAST B80	AARYAMET CAST C90
Main component		Tabular Alumina/Spinel	Tabular Alumina	Bauxite	Corundum
Binding system		Hydraulic	Hydraulic	Hydraulic	Hydraulic
Max. Service temp. (°C)		1850	1800	1680	1800
Grain size (mm)		0-6	0-6	0-6	0-10
Chemical analysis (wt %)	Al_2O_3	92.50	96	80	90.50
	MgO	5.30	-	-	-
	SiO_2	-	0.10	18.50	2.30
	CaO	1.50	3.60	0.50	0.50
Bulk Density (gm/cm3)		3.15	2.80	2.85	3.45
Water required for mixing (%)		4 to 5	8 to 8.80	4.50 to 5.40	3 to 3.50
Permanent linear change (%)		0 (1200°C)	-0.04 (1000°C)	-0.20 (1200°C)	-0.10 (1200°C)
CCS (N/mm2)		90 (1200°C)	55 (1200°C)	120 (1200°C)	140 (1200°C)

NOTE:
The above data is only indicative of our product range. We do meet customized need of individual customer.

Technical Data

Self Flow Castables

Properties / Product name		AARYAMET SLOW ZM	AARYAMET SFLOW TA 92	AARYAMET SFLOW B 80	AARYAMET SFLOW TA88
Main component		Zircon-Hullite	Tabular Alumina	Bauxite	Tabular Alumina
Binding system		Hydraulic	Hydraulic	Hydraulic	Hydraulic
Max. Service temp. (°C)		1650	1850	1600	1750
Grain size (mm)		0-6	0-6	0-6	0-6
Chemical analysis (wt %)	Al_2O_3	62	92	82	88
	MgO	-	5.40	-	-
	SiO_2	28.40	0.60	14	4
	CaO	1.50	1.70	0.60	1.5
Bulk Density (gm/cm3)		2.80	2.90	2.80	3.20
Water required for mixing (%)		4.50 to 6	5.50 to 7	5.20 to 6.4	4.80 to 5.20
Permanent linear change (%)		-0.20 (1200°C)	-0.10 (1200°C)	-0.20 (1200°C)	-0.15 (1200°C)
CCS (N/mm2)		130 (1200°C)	60 (1200°C)	100 (1200°C)	150 (1200°C)

Gunning Mass

Properties / Product name		AARYAMET GUN B70	AARYAMET GUN B80	AARYAMET GUN TA90	AARYAMET GUN TA95
Main component		Bauxite	Bauxite	Tabular Alumina	Tabular Alumina
Binding system		Hydraulic	Hydraulic	Hydraulic	Hydraulic
Max. Service temp. (°C)		1600	1650	1850	1870
Grain size (mm)		0-3	0-3	0-3	0-3
Chemical analysis (wt %)	Al_2O_3	70	80	88.50	93.50
	MgO	-	-	-	-
	SiO_2	25	14	1.50	0.30
	CaO	2	2.20	1.40	5.70
Bulk Density (gm/cm3)		2.60	2.70	2.85*	2.90
Water required		added at the nozzle	added at the nozzle	added at the nozzle	added at the nozzle
Permanent linear change (%)		-0.20 (1200°C)	-0.20 (1200°C)	-0.10 (1200°C)	0.30 (1200°C)
CCS (N/mm2)		30 (1200°C)	17 (1200°C)	35 (1200°C)	40 (1200°C)

NOTE:
The above data is only indicative of our product range. We do meet customized need of individual customer.

Technical Data

Ramming Mass

Properties Product name		AARYAMET RAM B80	AARYAMET MAGRAM 95	AARYAMET MCH-RAM	AARYAMET MAGDOLO-HEARTH
Main component		Bauxite	Magnesia	Magnesia, Chromite	Magnesia, Doloma
Binding System		Ceramic	Chemical	Chemical	Ceramic
Application		Ramming	Ramming	Ramming	Ramming*
Max. Service temp. (°C)		1650	1750	1750	1700
Grain size (mm)		0-5	0-5	0-5	0-6
Chemical analysis (wt %)	Al_2O_3	80		8	
	MgO	-	94	55	65
	CaO				25
	SiO_2	15	2		2
	Cr_2O_3			20	
	Fe_2O_3	2		15	5
Water required for mixing (%)		5	5	5	n.a.

Fettling variant (of AARYAMET MAGDOLO-HEARTH) which can be used for EAF-HEARTH and WALL hot-repair is also available.

Other Monolithics

Properties Product name		AARYAMET MAG-MORTAR	AARYAMET MCH-MORTAR	AARYAMET SG FILL	AARYAMET LDL BACKFILL
Main component		Magnesia	Magnesia, Chromite	Chromite	Magnesia, Olivine
Binding System		Ceramic	Ceramic	Ceramic	Chemical
Application		Join Magnesia Bricks	Join MCH Bricks	Well Fill	Back Fill
Max. Service temp. (°C)		1750	1750	1750	1700
Grain size (mm)		0-0.2	0-0.2	0-1	0-3
Chemical analysis (wt %)	Al_2O_3			15	-
	MgO	90	55		70
	SiO_2	4		20	20
	Cr_2O_3		20		
	Fe_2O_3		15		
Water required for mixing (%)		Suitable Workability	Suitable Workability	n.a.	n.a.

NOTE:
The above data is only indicative of our product range. We do meet customized need of individual customer.

F *Fettled*

R *Rammed*

F AARYAMET MAGDOLO-HEARTH

R AARYAMET MAGDOLO-HEARTH

Aarya Metallurgical

AARYA METALLURGICAL (INDIA) PRIVATE LIMITED

Office & Works : Chakradharpur, Bangursia, Raigarh, 496 001
Chhattishgarh (INDIA)
Contact : +91 9831690889, 9432012588, 7898370262
Email : aaryamet@gmail.com