

GLOBAL
METAL
RECYCLING

GMR
RECYCLING SERVICES



Great Challenger



GMR (Global: Green Metal Recycling), is based on the ESG management philosophy.

It aims to reduce CO2 emissions significantly, from 95% to 5%, that are derived from the refining process of various ores through recycling.

By doing so, it actively responds to global climate change and contributes significantly to leave a clean environment for the next generation. In addition, GMR will continue to improve EHSQ (Environment/Health/Safety/Quality) as a management policy.

It aims to protect our internal and external customers and contribute to community development and job creation through the company's sustainable growth.



History

2021

08

Establishment and Commencement of Business

10

Acquisition of Yongjeon Industrial Complex Site

2022

07.08

Permit for Installation of Hazardous Materials Manufacturing Facilities and Others

09.30

Permit for Installation and Operation of Emission Facilities and Others

2023

03.07

Passing the Final Inspection of Hazardous Materials Manufacturing Facilities and Others

04.20

Factory Use Approval (Completion)

04.25

Factory Registration

05.04

Comprehensive Waste Recycling Business Permitted

05.18

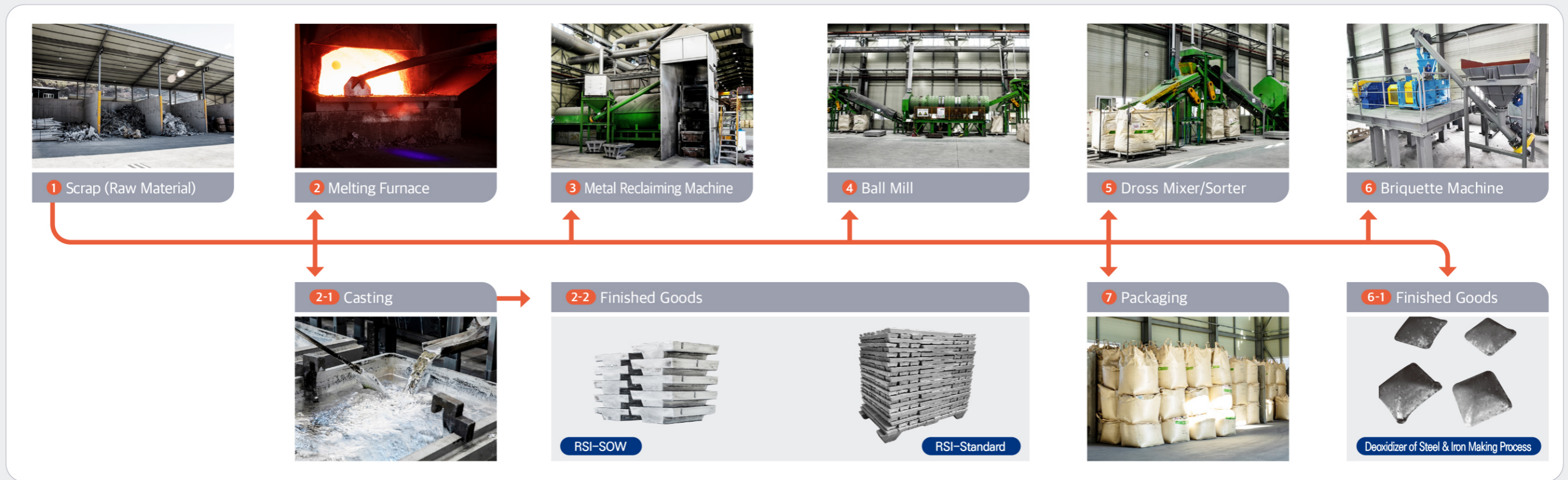
Operation Start Permitted

05.30

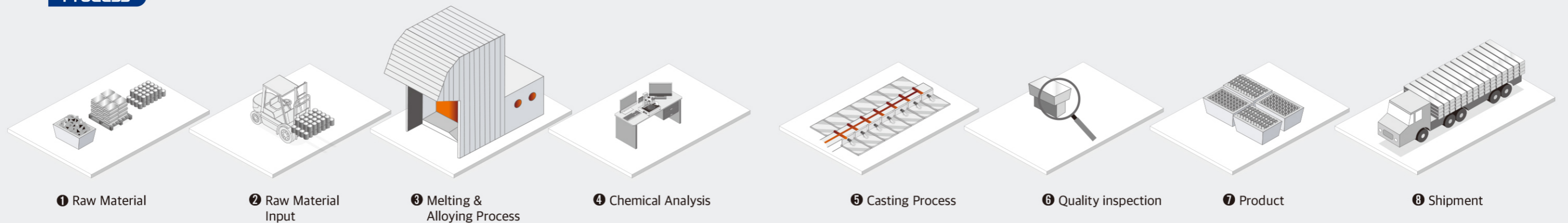
First Casting from the Furnace (Commencement of Commercial Production)

GMR. Embodying a strong will for future growth. Never stops.

Process

Process



Equipment



SOW Casting Line



STD Casting Line



Stationary Melting Furnace



Metal Reclaiming Machine



Rotary Melting Furnace



Ball Mill



Dross Mixer



Dross Sorter



Trommel

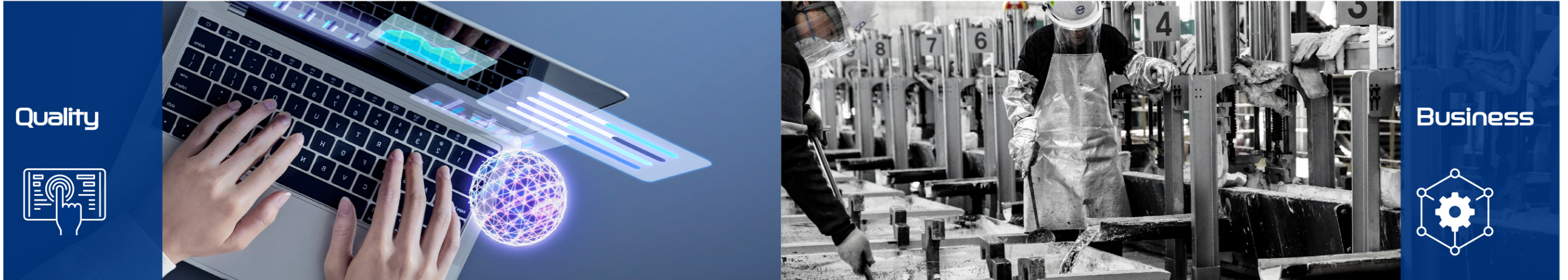


Scrap Yard

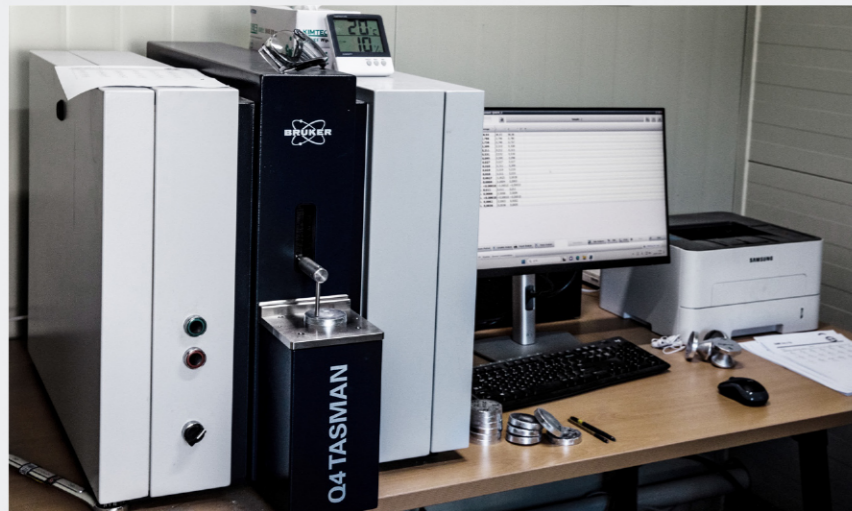


Dust Collecting System

Equipment		Equipment	
Stationary Melting Furnace (capa. 40/30ton)	2	Ball Mill	2
Rotary Melting Furnace	1	Trommel	1
SOW Casting Line	1	Dross Sorter	1
STD Casting Line	2	Dross Mixer	1
Metal Reclaiming Machine	2	Environmental Facilities(Dust Collector)	10



Material Analysis Lab
(Optical Emission Spectrometer)



Dross Analysis Laboratory



Portable Laser Material Analyzer



**Recycled Secondary
Ingots (RSI)**

**Deoxidizer Raw
Material**

Purpose	Ingredient	Type
Base Metal for Rolling and Alloying Process	Customer Order Ingredients	a. SOW b. Standard
Weight		
a. SOW: 500kg ~ 800kg/ea b. Standard: 7.5kg/ea		
Packaging		
a. SOW: Bulk b. Standard: 500kg or 1,000kg per Bundle with Plastic Band		

Purpose	Ingredient	Type
Raw Materials for Deoxidization in the Steelmaking Process	Customer Order Ingredients	Powder
Packaging		
1ton Bag		

Certification



Corporate Research Institute Certificate | Key Industry Company Certificate | Occupational Safety and Health Management System Certificate | Quality Management System Certificate | Environmental Management System Certificate

Chemical Composition

Chemical Composition

Wrought Alloy

Alloy Name	Si	Chemical Composition										Al
		Fe	Cu	Mn	Mg	Cr	Zn	Zr+Ti, V, Zr	Ti	etc. (2)		
										Individual	Sum	
1085	0.10 under	0.12 under	0.03 under	0.02 under	0.02 under	-	0.03 under	-	0.02 under	0.01 under	-	99.85 over
1080	0.15 under	0.15 under	0.03 under	0.02 under	0.02 under	-	0.03 under	-	0.03 under	0.02 under	-	99.80 over
1070	0.20 under	0.25 under	0.04 under	0.03 under	0.03 under	-	0.04 under	-	0.03 under	0.03 under	-	99.70 over
1050	0.25 under	0.40 under	0.05 under	0.05 under	0.05 under	-	0.05 under	-	0.03 under	0.03 under	-	99.50 over
1100	Si+Fe 1.0 under	0.05~0.20	0.05 under	-	-	-	0.10 under	-	-	0.05 under	0.15 under	99.00 under
1200	Si+Fe 1.0 under	0.05 under	0.05 under	-	-	-	0.10 under	-	-	0.05 under	0.15 under	99.00 under
1N00	Si + Fe 1.0 under	0.05~0.20	0.05 under	0.10 under	-	-	0.10 under	-	0.10 under	0.05 under	0.15 under	99.00 over
1N30	Si + Fe 0.7 under	0.10 under	0.05 under	0.05 under	-	-	0.05 under	-	-	0.03 under	-	99.30 over
2014	0.50~1.2	0.7 under	3.9~5.0	0.40~1.2	0.20~0.8	0.10 under	0.25 under	Zr+Ti 0.20under	0.15 under	0.05 under	0.15 under	Remainder
2017	0.20~0.8	0.7 under	3.5~4.5	0.40~1.0	0.40~0.8	0.10 under	0.25 under	Zr+Ti 0.20under	0.15 under	0.05 under	0.15 under	Remainder
2024	0.50 under	0.50 under	3.8~4.9	0.30~0.9	1.2~1.8	0.10 under	0.25 under	Zr+Ti 0.20under	0.15 under	0.05 under	0.15 under	Remainder
3003	0.6 under	0.7 under	0.05~0.20	1.0~1.5	-	-	0.10 under	-	-	0.05 under	0.15 under	Remainder
3203	0.6 under	0.7 under	0.05 under	1.0~1.5	-	-	0.10 under	-	-	0.05 under	0.15 under	Remainder
3004	0.30 under	0.7 under	0.25 under	1.0~1.5	0.8~1.3	-	0.25 under	-	-	0.05 under	0.15 under	Remainder
3104	0.6 under	0.8 under	0.05~0.25	0.8~1.4	0.8~1.3	-	0.25 under	Ga 0.05 under / V 0.05 under	0.10 under	0.05 under	0.15 under	Remainder
3005	0.6 under	0.7 under	0.30 under	1.0~1.5	0.20~0.6	0.10 under	0.25 under	-	0.10 under	0.05 under	0.15 under	Remainder
3105	0.6 under	0.7 under	0.30 under	0.30~0.8	0.20~0.8	0.20 under	0.40 under	-	0.10 under	0.05 under	0.15 under	Remainder
5005	0.30 under	0.7 under	0.20 under	0.20 under	0.50~0.8	0.10 under	0.25 under	-	-	0.05 under	0.15 under	Remainder
5052	0.25 under	0.40 under	0.10 under	0.10 under	2.2~2.08	0.15~0.35	0.10 under	-	-	0.05 under	0.15	Remainder
5652	Si+Fe 0.40 under	0.04 under	0.01 under	2.2~2.8	0.15~0.35	0.10under	-	-	-	0.05 under	0.15 under	Remainder
5154	Si+Fe 0.45 under	0.10 under	0.10 under	3.1~3.9	0.15~0.35	0.20 under	-	-	0.20 under	0.05 under	0.15 under	Remainder
5254	Si+Fe 0.45 under	0.10 under	0.10 under	3.1~3.9	0.15~0.35	0.20 under	-	-	0.20 under	0.05 under	0.15 under	Remainder
5454	0.25 under	0.40 under	0.10 under	0.50~1.0	0.24~3.0	0.05 0.20	0.25 under	-	0.20 under	0.05 under	0.15 under	Remainder
5082	0.20 under	0.35 under	0.15 under	0.15 under	4.0~5.0	0.15 under	0.25 under	-	0.10 under	0.05 under	0.15 under	Remainder
5182	0.20 under	0.35 under	0.15 under	0.20~0.50	4.0~5.0	0.15 under	0.25 under	-	0.10 under	0.05 under	0.15 under	Remainder
5083	0.4 under	0.4 under	0.10 under	0.40~1.0	4.0~4.9	0.05~0.25	0.25 under	-	0.15 under	0.05 under	0.15 under	Remainder
5N01	0.15 under	0.25 under	0.20 under	0.20 under	0.20~0.6	-	0.03 under	-	-	0.05 under	0.15 under	Remainder
6061	0.4~0.8	0.7 under	0.15~0.40	0.15 under	0.8~1.2	0.04~0.35	0.25 under	-	0.15 under	0.05 under	0.15 under	Remainder
6063	0.20~0.6	0.35 under	0.10 under	0.10 under	0.45~0.9	0.10 under	0.10 under	-	0.15 under	0.05 under	0.15 under	Remainder
7003	0.30 under	0.35 under	0.20 under	0.30 under	0.50~1.0	0.20 under	5.0~6.5	Zr 0.05~0.25	0.20 under	0.05 under	0.15 under	Remainder
7075	0.40 under	0.50 under	1.2~2.0 under	0.30 under	2.1~2.9	0.18~0.28	5.1~6.1	Zr+Ti 0.25 under	0.20 under	0.05 under	0.15 under	Remainder
7N01	0.30 under	0.35 under	0.20 under	0.20~0.7	1.0~2.0	0.30 under	4.0~5.0	V 0.10 under / Zr 0.25 under	0.20 under	0.05 under	0.15 under	Remainder

Casting Alloy

Alloy Name	Cu	Si	Fe	Mg	Mn	Zn	Ni	Sn	Pb	Ti	Cr	Al	JIS Standard
AC1A.1	4.0~5.0	1.20 under	0.4 under	0.20 under	0.30 under	0.30 under	0.05 under	0.05 under	0.05 under	0.25 under	0.05 under	Remainder	AC1A
AC1B.1	4.2~5.0	0.20 under	0.3 under	0.20~0.35	0.10 under	0.10 under	0.05 under	0.05 under	0.05 under	0.05~0.3	0.05 under	Remainder	AC1B
AC2A.1	3.0~4.5	4.0~6.0	0.7 under	0.25 under	0.55 under	0.55 under	0.30 under	0.05 under	0.15 under	0.20 under	0.015 under	Remainder	AC2A
AC2B.1	2.0~4.0	5.0~7.0	0.8 under	0.50 under	0.50 under	1.0 under	0.35 under	0.10 under	0.20 under	0.20 under	0.20 under	Remainder	AC2B
AC3A.1	0.25 under	10.0~13.0	0.7 under	0.15 under	0.35 under	0.30 under	0.10 under	0.10 under	0.10 under	0.20 under	0.05 under	Remainder	AC3A
AC4A.1	0.25 under	8.0~10.0	0.4 under	0.35~0.6	0.3~0.6	0.25 under	0.10 under	0.05 under	0.10 under	0.20 under	0.15 under	Remainder	AC4A
AC4B.1	2.0~4.0	7.0~10.0	0.8 under	0.50 under	0.50 under	1.0 under	0.35 under	0.10 under	0.20 under	0.20 under	0.20 under	Remainder	AC4B
AC4C.1	0.25 under	6.5~7.5	0.4 under	0.25~0.45	0.35 under	0.35 under	0.10 under	0.05 under	0.10 under	0.20 under	0.10 under	Remainder	AC4C
AC4CH.1	0.20 under	6.5~7.5	0.17 under	0.3~0.45	0.10 under	0.10 under	0.05 under	0.05 under	0.05 under	0.20 under	0.05 under	Remainder	AC4CH
AC4D.1	1.0~1.5	4.5~5.5	0.5 under	0.45~0.6	0.50 under	0.30 under	0.20 under	0.05 under	0.10 under	0.20 under	0.15 under	Remainder	AC4D
AC5A.1	3.5~4.5	0.60 under	0.7 under	1.3~1.8	0.35 under	0.15 under	1.7~2.3	0.05 under	0.05 under	0.20 under	0.15 under	Remainder	AC5A
AC7A.1	0.10 under	0.20 under	0.25 under	3.6~5.5	0.60 under	0.15 under	0.05 under	0.05 under	0.05 under	0.20 under	0.15 under	Remainder	AC7A
AC8A.1	0.8~1.3	11.0~13.0	0.7 under	0.8~1.3	0.15 under	0.15 under	0.8~1.5	0.05 under	0.05 under	0.20 under	0.10 under	Remainder	AC8A
AC8B.1	2.0~4.0	8.5~10.5	0.8 under	0.6~1.5	0.50 under	0.50 under	0.1~1.0	0.10 under	0.10 under	0.20 under	0.10 under	Remainder	AC8B
AC8C.1	2.0~4.0	8.5~10.5	0.8 under	0.6~1.5	0.50 under	0.50 under	0.50 under	0.10 under	0.10 under	0.20 under	0.10 under	Remainder	AC8C
AC9A.1	0.5~1.5	22.0~24.0	0.7 under	0.6~1.5	0.50 under	0.20 under	0.50~1.5	0.10 under	0.10 under	0.20 under	0.10 under	Remainder	AC9A
AC9B.1	0.5~1.5	18.0~20.0	0.7 under	0.6~1.5	0.50 under	0.20 under	0.50~1.5	0.10 under	0.10 under	0.20 under	0.10 under	Remainder	AC9B

Die Casting Alloy

Alloy Name	Cu	Si	Fe	Mg	Mn	Zn	Ni	Sn	Pb	Ti	Al	JIS Standard
ALDC1.1	1.0 under	11.0~13.0	0.9 under	0.3 under	0.3 under	0.5 under	0.5 under	0.1under	-	-	Remainder	ALDC1
ALDC1C.1	1.2 under	11.0~13.0	0.9 under	0.3 under	0.3 under	0.5 under	0.3 under	0.1under	0.2 under	0.2 under	Remainder	ALDC1C
ALDC2.1	1.0 under	11.0~13.0	0.9 under	0.1 under	0.5 under	0.1 under	0.1 under	0.05under	0.1 under	0.2 under	Remainder	ALDC2
ALDC3.1	0.6 under	9.0~10.0	0.9 under	0.4~0.6	0.3 under	0.5 under	0.5 under	0.1under	-	-	Remainder	ALDC3
ALDC5.1	0.2 under	0.3 under	1.1 under	4.1~8.5	0.3 under	0.1 under	0.1 under	0.1under	-	-	Remainder	ALDC5
ALDC6.1	0.1 under	1.0 under	0.6 under	2.6~4.0	0.4~0.6	0.4 under	0.1 under	0.1under	-	-	Remainder	ALDC6
ALDC7.1	0.1 under	4.5~6.0	0.9 under	0.1 under	0.5 under	0.1 under	0.1 under	0.1under	0.1 under	0.2 under	Remainder	
ALDC8.1	3.0~5.0	5.0~7.0	0.9 under	0.3 under	0.2~0.6	1.8 under	0.3 under	0.1under	0.2 under	0.2 under	Remainder	
ALDC10.1	2.0~4.0	7.5~9.5	0.9 under	0.3 under	0.5 under	1.0 under	0.5 under	0.5under	0.2 under	-	Remainder	ALDC10
ALDC10Z.1	2.0~4.0	7.5~9.5	0.9 under	0.3 under	0.5 under	3.0 under	0.5 under	0.2under	-	-	Remainder	ALDC10Z
ALDC11.1	2.5~4.0	7.5~9.5	0.9 under	0.3 under	0.5 under	1.0 under	0.5 under	0.2under	0.3 under	0.2 under	Remainder	ALDC11
ALDC12.1	1.5~3.5	9.6~12.0	0.9 under	0.3 under	0.6 under	1.0 under	0.5 under	0.2under	-	-	Remainder	ALDC12
ALDC12Z.1	1.5~3.5	9.6~12.0	0.9 under	0.3 under	0.5 under	3.0 under	0.5 under	0.2under	-	-	Remainder	ALDC12Z
ALDC14.1	4.5~5.0	16.0~18.0	0.9 under	0.5~0.65	0.5 under	1.5 under	0.3 under	0.3under	-	-	Remainder	ALDC14

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