

**HYUNDAI**  
W E L D I N G

Rev. 00

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# **SMT-4043**

GAS METAL ARC WELDING CONSUMABLE  
FOR WELDING OF 6063 AL-ALLOY

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**HYUNDAI WELDING CO., LTD.**



## ❖ Specification

<b><i>AWS A5.10</i></b>	ER 4043
<b><i>JIS Z3232</i></b>	A4043-WY
<b><i>EN 573.3</i></b>	EN AW-4043
<b><i>ISO 18273</i></b>	S AL 4043

## ❖ Applications

Automotive, Bicycle, and Motorcycle frames – general repair and maintenance

## ❖ Characteristics on Usage

4043 is a about 5% Silicon Aluminum filler metal ,it can be recommended for welding, 3003, 3004, 5052, 6061,6063 and the casting metal 355,356,214,and the color is grey after anodizing.

## ❖ Note on Usage

1. Make sure the consumable has adapted the environment temperature before unpacking the package.
2. Remove dirt such as oil and dust from the groove before welding.
3. The quality of the weld joint will be better if the humidity of the welding room is controlled.

## ❖ Type of Current

DC+

## ❖ Packing

<b>D270 Spool</b>	5kg
<b>D300 Spool</b>	6Kg、 7Kg



## Chemical Composition & Diameter Tolerance of Consumable

### ❖ Chemical Analysis of Consumable (wt%)

Consumable	Chemical Composition (wt%)									
	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Be	Al
SMT-4043	5.07	0.12	0.03	0.02	0.01		0.03	0.02		Rem.
AWS A5.10 ER 4043	4.5~6 .0	≤0.80	≤0.3 0	≤0.05	≤0.05		≤0.10	≤0.20		Rem.
ISO 18273 S Al-4043	4.5~6 .0	≤0.80	≤0.3 0	≤0.05	≤0.05		≤0.10	≤0.20		Rem.
EN 573.3 EN AW-4043	4.5~6 .0	≤0.60	≤0.3 0	≤0.15	≤0.20		≤0.10	≤0.15		Rem.
JIS Z3232 A4043-WY	4.5~6 .0	≤0.80	≤0.3 0	≤0.05	≤0.05		≤0.10	≤0.20		Rem.

### ❖ Diameter Tolerance

Nominal Diameter/ mm	Diameter and Tolerance			
	SMT-5356	AWS A5.10	EN 544	JIS Z3232
0.8	0.79	-0.05,+0.03	-0.04,+0.01	±0.02
0.9	0.89	-0.05,+0.03	-0.04,+0.01	Not Specified
1.0	0.99	-0.05,+0.03	-0.04,+0.01	±0.03
1.2	1.19	-0.05,+0.03	-0.04,+0.01	±0.03
1.6	1.58	-0.05,+0.03	-0.04,+0.01	±0.03

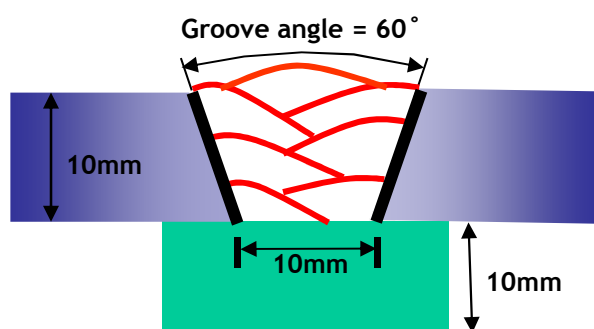
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## RT of weld matel

### ❖ Welding Conditions

Method by AWS Spec.



[ Joint Preparation & Layer Details ]

Diameter(mm)	: 1.6mm
Base metal	: 6063-O
Amp./ Volt.	: 240/24
Travel speed(mm/min)	: 300~800
Pre-Heat(℃)	: R.T .
Interpass Temp.(℃)	: 60~110
Position	: Overhead
Polarity	: DCEP

### ❖ RT of weld matel<sup>1</sup>

Consumables	AWS A5.10 <sup>2</sup>		EN 14532 & ISO 10042		JIS Z3232
	Results	Requirements (Rounded indications)	Results <sup>3</sup>	Requirement	
SMT-4043	1.5mm: 2 1mm: 3 0.5mm: 12	up to 1.9mm: ≤4 up to 1.3mm: ≤5 up to 0.5mm: ≤17 or 0.5mm: ≤108	Level B	Level B	Not Specified

Note1: In evaluating the radiograph, the center 150 mm of the test specimen shall be considered, and all extra weld shall be disregarded.

Note2: Indications which do not exceed 0.4 mm diameter or length, or both, shall be disregarded, and indications larger than the large indications permitted can be regarded do not meet the requirements.

Note3: The results are obtained based on the experiment of the test specimen welded in flat position which is demanded in EN14532.



## Mechanical Properties of welded joint

### ❖ Mechanical Properties of welded joint

Consumable	Tensile test	Bend test <sup>1</sup>	
	Tensile strength Rm/MPa	Former Diameter	Bending angle (degrees)
SMT-4043	183	40	180
AWS A5.10 ER 4043	Not Specified	Not Specified	
EN 14532 S Al 4043	≥150	≤50	
JIS Z3232 A4043-WY	≥165	≤66	

Note 1: During testing, the test specimen shall not reveal any one single flaw greater than 3 mm in any direction. Flaws appearing at the corners of a test specimen shall be ignored in the evaluation unless there is evidence that they result from lack of fusion.

### ❖ Appearance of Bead on plate

Flat(PA) , Base : 6063-T5, 6mm	
	SMT-4043
Automatic MIG, DCEP, 210A/23V	

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## Approvals

### ❖ AUTHORIZED APPROVAL DETAILS

Consumable	DB	CE
SMT-4043	ISO 18273 S AI 4043 0.8~4.0mm	ISO 18273 S AI 4043 0.8~4.0mm

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