

# MATERIAL SAFETY DATA SHEET

MSDS NUMBER: DNW03113

PRODUCT NAME: Aluminum Filler Metals for welding according to AWS A5.10

FORMULA: ER4043, ER4047, ER5356

## SECTION 1. ISSUED BY

**Dynaweld Industrial Supplies Pty Ltd**

**123 Fairford Rd, Padstow NSW 2211**

**Date: 1/7/2009**

**Ph: (02) 9772 1144**

**Fax: (02) 9774 1685**

## SECTION 2. CHEMICAL COMPOSITION, %

AWS A5.10-92 Classification	UNS Number <sup>c</sup>	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Other Elements	
											Each	Total
ER4043	A94043	4.5-6.0	0.8	0.30	0.05	0.05	—	0.10	0.20	Remainder	0.05 <sup>e</sup>	0.15
ER4047	A94047	11.0-13.0	0.8	0.30	0.15	0.10	—	0.20	—	Remainder	0.05 <sup>e</sup>	0.15
ER5356	A95356	0.25	0.40	0.10	0.05-0.20	4.5-5.5	0.05-0.20	0.10	0.06-0.20	Remainder	0.05 <sup>e</sup>	0.15

Note: 1. Single values shown are maximum.

2. Beryllium shall not exceed 0.0008 percent.

## SECTION 3. STANDARD SIZE

Form	Level Wound on spools						Straight length			
Diameter r <sup>a,b</sup>	in.	0.030	0.035	3/64 (0.047)	1/16 (0.0625)	3/32 (0.094)	1/16 (0.0625)	3/32 (0.094)	1/8 (0.125)	5/32 (0.156)
	mm	0.8	0.9	1.2	1.6	2.4	1.6	2.4	3.2	4.0

## SECTION 4. WINDING

4.1 Filler metal on spools shall be wound so that kinks, waves, sharp bends, overlapping, or wedging are not encountered, leaving the filler metal free to unwind without restriction. The outside end of the filler metal (the end with which welding is to begin) shall be identified so it can be located readily and shall be fastened to avoid unwinding.

4.2 The outermost layer of spooled electrode or spooled rod shall not be closer than 1/8 in. (3 mm) to the outside diameter of the flanges.

## **SECTION 5. PACKAGING AND PACKAGE MARKING**

5.1 Nominal weight is 13.2 lb (6 kg) for 12 in. (300mm) spool and 11lb (5 kg) for 40 in. (1000mm) plastic box or carton.

5.2 Spools are of a special material and design so as to provide protection against damage or distortion of themselves or the filler metal due to normal handling and use.

5.3 Spools and plastic box or carton are sufficiently clean and dry to maintain cleanliness of the filler metal.

5.4 Spools are constructed to electrically insulate the filler metal from the spool.

5.5 AWS specification, Standard size, weight, heat number, shall be legibly marked so as to be visible from the outside of each unit package.

## **SECTION 6. DESCRIPTION AND INTENDED USE**

6.1 They are intended for gas metal arc, gas tungsten arc, and plasma arc welding. And they are primarily for use with the inert gas arc welding processes.

6.2 Service conditions such as immersion in fresh or salt water, exposure to specific chemicals, or a sustained high temperature (over 150°F (65°C)) may limit the choice of filler metals. Filler metal ER5356 is not recommended for sustained elevated temperature service.

6.3 The selection of the proper classification of filler metal depends primarily on the aluminum alloy used in the parts to be welded; and secondly on the welding process, the geometry of the joints, the resistance to corrosion required in service, and on the finish or appearance desired on the welded part.

6.4 Filler metal in the form of straight lengths is used as welding rod for gas tungsten arc welding. The filler metal is usually fed by hand, although mechanized welding in these processes may involve either manual feeding of the welding rod or use of a feeding mechanism.

6.5 Spooled filler metal is used most commonly as electrode for the gas metal arc welding process. It also is used as filler rod when mechanized feeding systems are employed for gas tungsten arc and plasma arc welding. Finite lengths of filler metal can be removed from the spools for use as a high-quality, hand-fed filler rod with manual gas tungsten arc and plasma arc welding processes.

6.6 Proper storage of welding rods and electrodes is essential to avoid oxidation which may affect their performance. Packages of filler metal should not be left outdoors or in unheated buildings because the greater variations in temperature and humidity increase the possibility of condensation to create hydrated surface oxides.

## **SECTION 7. SPECIAL PROTECTION INFORMATION**

**FUMES** and **GASES** can be dangerous to your health. **ARC RAYS** can injure eyes and burn skin. **ELECTRIC SHOCK** can kill.

- ★ Read and understand our instructions and your employer's safety practices.
- ★ Keep your head out of the fumes.
- ★ Use enough ventilation, exhaust at the arc, or both to keep fumes and gases away from your breathing zone, and the general area.
- ★ Wear correct eye, ear and body protection.
- ★ Do not touch live electrical parts.
- ★ First aid: call for medical aid. Provide fresh air.

## **SECTION 8. ADDITIONAL INFORMATION**

The information above is furnished without warranty. We are attempted to provide current and accurate information about the safety, but not liability for any loss, damage and injury in application.

In case of question, please call us.