

**Table 4**  
**Chemical Composition Requirements for Welding Rods and Rod Stock**

AWS Classification			Amount, Percent by Weight <sup>b</sup>									
A5.2	A5.2M	UNS Number <sup>a</sup>	C	Mn	Si	P	S	Cu	Cr	Ni	Mo	Al
R45	RM30	K00045	0.08	0.50	0.10	0.035	0.040	0.30	0.20	0.30	0.20	0.02
R60	RM40	K00060	0.15	0.90 to 1.40	0.10 to 0.35	0.035	0.035	0.30	0.20	0.30	0.20	0.02
R65	RM45	K00065	0.15	0.90 to 1.60	0.10 to 0.70	0.035	0.035	0.30	0.40	0.30	0.20	0.02
R100	RM69	K12147	0.18 to 0.23	0.70 to 0.90	0.20 to 0.35	0.025	0.025	0.15	0.40 to 0.60	0.40 to 0.70	0.15 to 0.25	0.02
R(X)XX-G <sup>c</sup>	RMXX-G <sup>d</sup>		← Not Specified →									

<sup>a</sup> SAE HS-1086/ASTM DS-56, *Metals & Alloys in the Unified Numbering System*.

<sup>b</sup> Single values are maxima.

<sup>c</sup> Designators "(X)XX" correspond to minimum tensile strength of weld metal in ksi (see Note b of Table 1).

<sup>d</sup> Designators "XX" correspond to minimum tensile strength of weld metal in multiples of 10 MPa (see Note c of Table 1).

**Table 5**  
**Standard Filler Metal Sizes<sup>a</sup>**

Standard Package Form	Diameter			Tolerance	
	A5.2 (in)	A5.2M (mm)	in	mm	
Straight lengths <sup>b</sup>	1/16	(0.062)	1.6	±0.002	±0.05
	3/32	(0.094)	2.4		
	—	(0.098)	2.5		
	1/8	(0.125)	3.2		
	5/32	(0.156)	4.0		
	3/16	(0.188)	4.8 <sup>c</sup>		
	—	(0.197)	5.0		
	—	(0.236)	6.0		
	1/4	(0.250)	6.4 <sup>c</sup>		

<sup>a</sup> Other sizes may be supplied as agreed upon between the purchaser and supplier.

<sup>b</sup> The standard length of the welding rod shall be 36 in +0, -1/2 in [900 mm +15 mm, -0 mm]. Other lengths may be supplied as agreed upon between the purchaser and supplier.

<sup>c</sup> All sizes in mm are standard in ISO 544 except 4.8 mm and 6.4 mm.

## 14. Finish and Uniformity

**14.1** All welding rods shall have a smooth finish that is free from slivers, depressions, scratches, scale, seams, laps, and foreign matter that would adversely affect the welding characteristics or the properties of the weld metal.

**14.2** A suitable protective coating may be applied to any welding rod in this specification.

**14.3** The welding rods may be coated with the minimum amount of oil necessary to prevent rusting, but not sufficient to adversely affect weld properties, except that oil

is not permitted when copper or other suitable coatings are used to prevent rusting.

## 15. Filler Metal Identification

Each bare straight length filler rod shall be durably marked with identification traceable to the unique product type of the manufacturer or supplier. Suitable methods of identification could include stamping, coining, embossing, imprinting, flag-tagging, or color coding. (If color coding is used, the choice of color shall be as