

**Tungsten Electrode  
Certificate of Compliance  
AWS/SFA 5.12**

<b>Chemical Composition Requirements</b>					
<b>Classification Symbol</b>	<b>Principal Oxide</b>	<b>Mass Percent</b>	<b>Impurities Mass Percent</b>	<b>Tungsten Mass Percent</b>	<b>Color Code</b>
EWP	NONE	N/A	0.5 MAX	99.5 MIN	GREEN
EWCe-2	CeO <sub>2</sub>	1.8-2.2	0.5 MAX	BALANCE	GREY
EWLa-1	La <sub>2</sub> O <sub>3</sub>	0.8-1.2	0.5 MAX	BALANCE	BLACK
EWLa-1.5	La <sub>2</sub> O <sub>3</sub>	1.3-1.7	0.5 MAX	BALANCE	GOLD
EWLa-2	La <sub>2</sub> O <sub>3</sub>	1.8-2.2	0.5 MAX	BALANCE	BLUE
EWTh-1	ThO <sub>2</sub>	0.8-1.2	0.5 MAX	BALANCE	YELLOW
EWTh-2	ThO <sub>2</sub>	1.7-2.2	0.5 MAX	BALANCE	RED
EWTh-3	ThO <sub>2</sub>	2.8-3.2	0.5 MAX	BALANCE	VIOLET
EWZr-1	ZrO <sub>2</sub>	0.15-0.50	0.5 MAX	BALANCE	BROWN
EWZr-8	ZrO <sub>2</sub>	0.7-0.9	0.5 MAX	BALANCE	WHITE
EWG	Declared by manufacturer on SDS	Declared by manufacturer on SDS	.05 MAX	BALANCE	May be any color not used

This document certifies that all LOT#'s of the product supplied will meet the requirements of the noted classification and data above.

*JWD*

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