Eureka Welding Alloys
2000 E. Avis Drive
Madison Heights, MI 48071

ISO 9001 Certified

Product: Eureka No. 726 Electrode

Dated: November 6, 1996
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INTRODUCTION

Eureka No. 726 Electrodes were developed for the forging industry's need for a companion to **Eureka No. 726 Alloy Cored Wire**. They are utilized for partial repair and for finishing die surfaces to eliminate low spots and under cuts where flood welding has been performed. They are also used where the Eurekamatic process is not practical.

METALLURGICAL CHARACTERISTICS

Eureka No. 726 Electrode deposit is an extremely tough Chromium, Tungsten, and Molybdenum hot working alloy. This alloy displays excellent retention of hardness at elevated temperatures yielding excellent abrasion resistance. It also displays good impact resistance imparting good notch toughness values at the bottom of impression ribs, etc. As welded hardness; 55 - 60 Rockwell "C"; non-machinable.

RECOMMENDED APPLICATIONS

Eureka No. 726 Electrodes are an excellent choice for press forging type dies where high heat and abrasion are encountered. A typical application is the automobile connecting rod forging. Composite die construction has proven very successful by choosing a resilient base block and gouging a pocket oversize to facilitate welding with **Eureka No. 726 Electrode.** Several high volume forgings that demand the ultimate in weld metal mechanical properties for the automotive industry would be **(A)** connecting rod; **(B)** socket side rod -- inner and outer; **(C)** sleeve yoke; **(D)** camshafts and steering knuckles. It is also an excellent choice for hot trim and shearing applications where expensive Cobalt alloys are often used.

PREPARATION AND WELDING PROCEDURE

1. Impressions or surfaces to be welded must be free of scale, dirt, or any other foreign matter.

Phone: (248) 588 0001 Fax: (248) 585 7711 Toll Free: 800 962 8560
E-mail: eurekagm@compuserve.com Web Site: www.eurekaweldingalloys.com

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PREPARATION AND WELDING PROCEDURE

(continued)

2. All cracks and heat checks must be removed entirely. This can be accomplished by grinding or machining and or air carbon arc gouging. Note: If air carbon arc gouging is to be utilized. Then preheating prior to gouging will be necessary. In stock removal, allow at least three layers (3/8") of weld metal to guard against dilution or admixture with the base metal.

3. Select a preheat temperature according to the base metal (heat for one hour per inch maximum cross sectional thickness at temperature.)

4. Select D.C. reverse polarity.

5. Select the proper diameter electrode according to job size or repair area.

6. Select the lowest amperage needed to effectively weld so as not to overheat or disturb the base.

7. Utilize short 3" – 4" stringer beads – peening thoroughly after each pass to offset shrinkage and welding stress in the crater of the weld.

8. Control interpass temperature as close as possible to preheat temperature.

9. After welding, **post heat** at the same temperature used to preheat to equalize thermal gradients.

10. After post heating, slow cool the die by covering it with heat resistant blankets (Kaowool, Cerawool) to 150°F. minimum.

11. Return the die or component to the furnace for tempering. Temper the die or component according to the temper chart of the welding alloy for desired hardness.

12. Remove from furnace and slow cool (same as Step 8).

13. Double temper (highly recommended).

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WELDING PARAMETERS

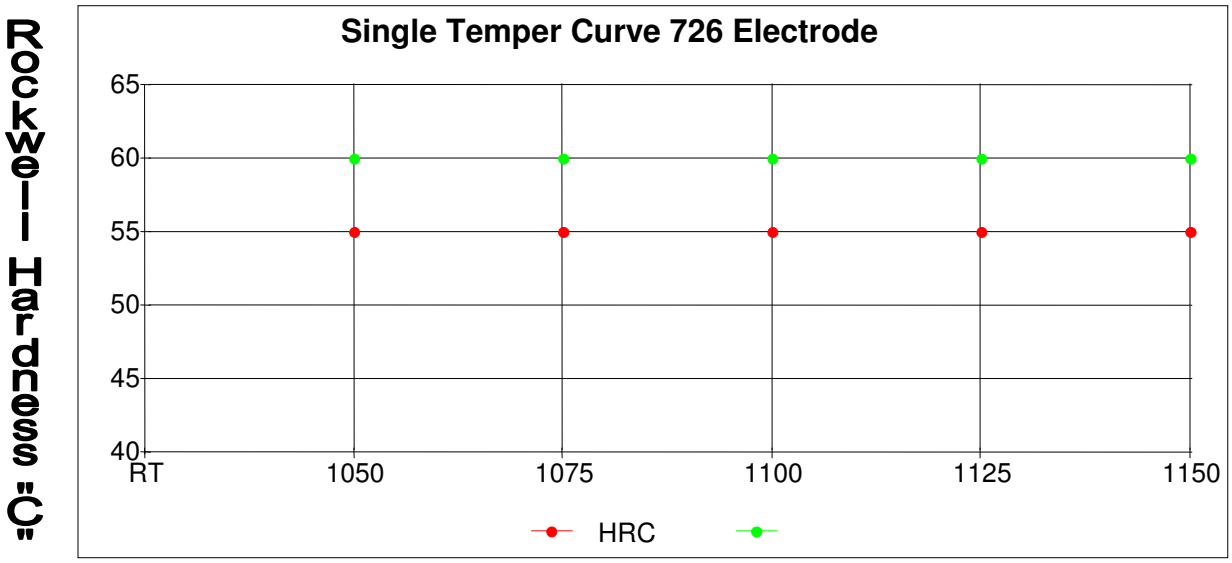
Type	Size	Amp Range
726	3/32”	@ 90 – 95
	1/8”	@ 110 – 125
	5/32”	@ 140 – 155
	3/16”	@ 170 – 185
	1/4”	@ 220 – 240

TEMPERING DATA

The hardness values and tempering temperatures assigned to Eureka’s products are only approximations and should only be referred to as a guide.

The hardness values and tempering temperatures displayed in the chart on page 4 were obtained under optimum conditions. The values your staff obtains will vary according to the procedures and use of equipment that may be utilized; therefore, a hardness range is given rather than a specific value.

To read the chart on page, follow temperature line up to lower and upper intersecting points and read approximate hardness range.



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