

Royal 118-T

Oxyfuel Gas Welding
(OFW)

Gas Tungsten Arc Welding
(GTAW) TIG Alloy

Hard-Facing Alloy



"The Royal Line"

CROWN ALLOYS COMPANY

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8/12 Mesh Size Tungsten Carbide Alloy for Torch or TIG

Typical Applications

Royal 118-T is often referred to as "**Horseshoe Borium**". This alloy is used to make overlays whose abrasion resistance surpasses that of any hard-facing material. The weld deposit contains relatively large undissolved tungsten carbide particles which provides a maximum non-slipping surface. The tungsten carbide particles are held in place by an iron based matrix.

Equipment that is hard-faced with **Royal 118-T** will outwear unprotected areas by at least 10-1. **Royal 118-T** cuts granite and quartz easily thus making it the perfect choice to armor the cutting teeth and gage holding surfaces of rock drill bits. With its larger tungsten-carbide particle sizes, **Royal 118-T** is used often where traction and abrasion resistance are needed such as horseshoes, snowmobile runners, tire chains etc. **Royal 118-T** is self-fluxing.

Specifications

RWC – 8/12

- Tungsten Carbide Size 8 to 12 mesh size
- Hardness of tungsten-carbide particles Rockwell "A" 90 – 95 or 9.9 on Moh's Scale
- Abrasion Resistance Excellent
- Impact Resistance Low
- Non-skid Capability Outstanding
- Hot Wear Applications up to 900°F
- Machinability Can only be finished using silicon-carbide or diamond grinding wheels

Procedure

Clean base metal. Use oxy-acetylene torch with a carburizing flame. A 3X (three-times) feather-to-cone reducing flame is recommended. Use a torch tip size that is larger than is normally used to weld the same diameter mild steel rod. Usually a size 6 tip will suffice. While it is recommended that the **Royal 118-T** be applied using an oxy-acetylene torch, it can be applied with a TIG torch as well. It is critical to control the heat so the tungsten carbide does not dissolve. The electric arc utilized in TIG welding is hot enough to melt tungsten carbide so care must be taken to add the **Royal 118-T** to the leading edge of the weld pool only. Deposits can be applied directly to the parent metal or to a buffer layer of **Royal 120FC**. A thin layer of **Royal 120FC** facilitates better wetting of the **Royal 118-T** and a more permanent bond. After the deposit is made it should be washed with the torch to flow out the iron matrix and expose the tungsten particles. Limit the amount of passes to one layer. On horseshoes, **Royal 118-T** should be applied in three places: 1.5" long on each heel and the toe. On snowmobile runners it should be used on the outside edge to prevent sliding in turns.

Size and Part Numbers

Diameter	Part Numbers	
	1# Package	5# Package
1/4 x 14"	RT118T/TR-BP	RT118T/TR



!!!! WARNING !!!!



WELDING FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.

BEFORE USING THIS PRODUCT THE WELDER (END-USER) MUST READ AND UNDERSTAND THE COMPLETE PRODUCT WARNING LABEL AND THE NEW 16 SECTION SAFETY DATA SHEET (SDS).

THE SAFETY DATA SHEET (SDS) WHICH OUTLINES THE POTENTIAL HEALTH HAZARDS AND SAFETY INFORMATION RELATED TO THIS PRODUCT CAN BE DOWNLOADED FROM THE SDS PORTION OF THIS WEBSITE. IT IS ALSO AVAILABLE FROM YOUR EMPLOYER AND WELDING SUPPLY DISTRIBUTOR.

DO NOT PROCEED WITH USE OF THIS PRODUCT UNTIL YOU READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) AND PRODUCT WARNING STATEMENT.

BE SURE TO CONSULT THE LATEST VERSION OF THE SDS.

SEE THE PRODUCT WARNING LABEL AND SDS FOR COMPLETE WARNING INFORMATION.

