

# Royal 55/45-10

Gas Tungsten Arc Welding  
(GTAW) TIG Rod

Oxyacetylene Welding  
(OAW)

Alloy for Cast Iron & Copper-Nickel



"The Royal Line"

**CROWN** ALLOYS COMPANY

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## Bare Copper-Nickel for TIG or Oxyacetylene Welding

### Typical Applications

**Royal 55/45-10** is a soft and ductile (copper/nickel) TIG alloy that provides remarkable elongation for all types of crack sensitive cast iron repairs. It can be used to fill sand holes, repair cracks and buildup undersized patterns, molds or castings. The excellent machinability and sealing properties make it ideal for repairs on cylinder heads, blocks and thin castings such as water jackets.

**Royal 55/45-10** (commonly referred to as Alloy 67) is also formulated for the TIG and oxyacetylene welding of Monel® 450 (70/30 copper-nickel), 80/20, and 90/10 copper-nickel alloys to themselves or to each other. The **Royal 55/45-10** is used for the surfacing of steel if a barrier layer of **Royal 11-10** is applied first. The weld deposit has excellent resistance to corrosion in sea water, and is widely used for marine and desalination applications.

**Royal 55/45-10** is used to join many dissimilar combinations of Monel®, Nickel 200 and various copper-nickel alloys.

### Specifications

AWS A 5.7/A5.7M  
ER CuNi

- Tensile Strength 50,000 psi
- Elongation 30%
- Color Match (cast iron) Excellent
- Machinability Excellent
- Hardness 60-80 Brinell

### Procedure

Clean joint area thoroughly. Remove all old welds, cracks and fatigued metal. Bevel heavy sections. Use DC straight polarity (DCEN) with argon shielding gas. Welding can be done in all positions. The arc should be kept as short as possible to assure adequate shielding gas coverage and thus minimize porosity. Preheat and post-heat will be dictated by the base metal, type of weld and amount of deposit, although preheating is usually not necessary.

Manual Welding – DCEN – Use a 2% thoriated, or 2% ceriated, or 2% lanthanated tungsten			
Wire Diameter	Shielding Gas	Welding Current (amps)	Arc Voltage (volts)
1/16 x 36"	100% Argon	70 – 130	9 – 16
3/32 x 36"		120 – 175	10 – 16
1/8 x 36"		150 – 220	10 – 16

### Sizes and Part Numbers

Diameter	Part Numbers	
	1# Package	5# Package
1/16 x 36"	RT5545/TL-BP	RT5545/TL
3/32 x 36"	RT5545/TN-BP	RT5545/TN
1/8 x 36"	RT5545/TO-BP	RT5545/TO



**!!!! 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.**

