

# ARCTEC® 603 PHB



a quality welding alloy

## GENERAL CHARACTERISTICS:

The new ARCTEC® 603 PHB is a versatile phosphor bronze alloy developed for joining and cladding operations using direct current. The electrode has a smooth arc and produces a dense, porosity free deposit in all positions with a minimum of spatter and easily removable slag. Has excellent color match to bronze.

## APPLICATIONS:

The ARCTEC® 603 PHB electrode is ideal for overlays on shafts and bearing surfaces as it produces a dense wear resistant deposit. Has excellent resistance to salt water corrosion as well as many other chemicals. For bearing shells, housings, impellers, pumps, turbines, gear teeth, cast iron, bronzes, and other applications where machinability is required. For joining of phosphor bronze, tin bronze, brass and bronze or brass friction wear strips to steel and cast iron machinery parts.

## WELDING PROCEDURE:

Clean the weld zone free of scale, oxides, grease and other foreign matter. Prepare joints as required. Thin sections can be butt-welded together when a sufficient gap is maintained. Bevel heavy sections to a 90° included angle using a single vee joint to reduce residual stresses. Preheating is recommended for heavy sections. Maintain a medium arc and hold the electrode vertical to the workpiece. Allow weld deposit to partially cool before attempting slag removal. Always ensure adequate ventilation is available when welding in confined areas.

## MECHANICAL PROPERTIES:

|                        |   |  |                   |
|------------------------|---|--|-------------------|
| Hardness<br>100-120 HB | Tensile Strength (approx.)<br>60,000psi 413 MPa | Yield Strength (approx.)<br>35,00psi 241 MPa | Elongation<br>35% |
|------------------------|---|--|-------------------|

## OPERATING PARAMETERS:

WELDING PROCESS: SMAW

POLARITY: **DC Reverse Polarity**

## Recommended Amperage:

|          |             |             |              |
|----------|-------------|-------------|--------------|
| Diameter | 2.5mm 3/32" | 3.25mm 1/8" | 4.00mm 5/32" |
| Amperage | 80-100      | 100-140     | 120-160      |

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|----------------------------|--------------------------|---------------------------|--------------------------|
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