



## **Handling, Installation and Maintenance Recommendations** **For Transformers**

### **Scope:**

This document is intended as an aid to application, handling, installation and maintenance of single phase water cooled transformers. This document is intended for individuals knowledgeable in the field of heavy, high voltage equipment requiring further information about transformers.

### **Application:**

- Use grounding and operator protection methods as shown in RWMA bulletin 16.
- Primary power cables must be sized and installed in accordance with appropriate local codes. Reference sources: RWMA bulletin 14 and 16, NEC Article 630.
- Use water savers or temperature controllers to avoid condensation.
- Use proper size pipe, hose and fittings to ensure minimum rated coolant flow.
- Coolant flowmeter with switch should be interlocked with weld control.
- Thermostats will detect gradual loss of coolant due to deposits in coolant lines, use flowmeter with switch in coolant "out" lines to protect against sudden loss of coolant.
- Minimize loading on secondary terminals. Terminals are electrical connections only.

### **Handling:**

- Use transformer mounting holes for lifting eyes and when mounting transformer to machine frame.
- Use spreader bars to keep lifting chains from damaging transformer.
- Do not wrap chains or straps around transformer for handling.
- Do not set transformer on primary or secondary connection ends.

### **Storage:**

- Do not allow unit to freeze. Circulate antifreeze through transformer if freezing could occur.
- Protect copper contact terminals from oxidation or corrosion..

### **Installation:**

- Use grounding and operator protection methods as shown in RWMA bulletin 16.
- Allow access to tapswitch handle and secondary terminals.
- Protect tapswitch and secondary terminals from contaminants such as cooling water and weld flash.
- Primary and secondary terminations should be prepared for connections. Use steel wire brush, emory cloth or scotch brite for bright copper finish. Apply light coating of non corrosive grease to terminals' contact surface.
- Tighten primary and secondary terminations.
- Run coolant to transformer even during machine tryout.
- Use designated mounting holes as shown on the transformer physical drawing to mount transformer.
- Use at least (4) mounting holes on any (1) side of transformer for mounting.
- Do not distort transformer when mounting.

### **Maintenance:**

- Tighten and clean secondary terminals.
- Keep weld flash off transformer.
- Ensure that coolant flowmeter with switch is interlocked with weld control.
- Ensure maximum coolant "in" temperature does not exceed 30° C (86° F).
- Use water savers or temperature controllers to avoid condensation.
- Do not change tapswitch under load.
- Repair all coolant leaks.
- Visually inspect electrical joints for heat discoloration.

- Flush coolant system as required.
- Clean and replace coolant strainer and filter as required.
- Thermostats will detect gradual loss of coolant due to deposits in coolant lines, use flowswitches in coolant “out” lines to protect against sudden loss of coolant.
- Do not allow unit to freeze. Freezing can burst copper tubes or displace O rings.
- Refer to RWMA Bulletin 14 for further instructions.