Dragon Tooth® magnet wire termination system

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The tough, high-temperature insulation on magnet wire used by electrical motor and transformer manufacturers creates problems in splicing and terminating. The durability of magnet wire insulation has made dip-soldering or brazing extremely difficult without stripping the insulation.

Another splicing and terminating challenge involves the use of aluminum for magnet applications. A manufacturer connecting aluminum magnet wire to copper is faced with the problem of the different coefficients of thermal expansion of the two metals, galvanic corrosion, cold flow and the rapid formation of oxide film on the wire surface.

ABB offers a solution for a highly reliable connection method for magnet wire. It eliminates welding, no longer requires removal of insulation and it can be installed in seconds. No special operator skills are needed. The connector and matching tooling do the entire job. To meet the essential requirements of magnet wire connections, ABB offers the insulation piercing Dragon Tooth compression connector.

Dragon Tooth magnet wire connectors
Dragon Tooth connectors and installing tools are designed to splice, tap and terminate magnet wire from #32 AWG to 460,000 CMA copper and from #18 AWG to 460,000 CMA aluminum conductors in motor and transformer applications. Dragon Tooth magnet wire connectors penetrate the insulation and oxide layers to make electrical contact on magnet wiring. The result is permanent, low-resistance electrical connections, capable of maintaining contact integrity throughout the life of the connection.

• Designed to penetrate magnet wire insulation during application, eliminating the need for stripping, brazing, welding or other methods of joining magnet wire
• Can be installed in seconds
• Requires minimal training for installation
• Made of copper alloy, tin plated, with teeth on the inner surface
• Splices and taps have an open side enabling easy access to wire and making internal coil tapping possible
• For aluminum to copper, aluminum to aluminum or copper to copper magnet wire connections
• Supplied with bolt holes to accommodate #6 through ½" studs and includes male and female 0.250" x 0.032" disconnects
• Rings and fork terminals accommodate wire sizes #24 to #12 AWG in a variety of combinations, including combining magnet wire with stripped wire lead. For solid or stranded wire #20 to 4/0 AWG
• Larger connectors accommodate circular mil range from 50,000 to 460,000 CMA
• Connector and matching tooling do the entire job