



Western Instruments

Established 1965

Coil Construction Summary

Western Instruments developed its first Portable MPI Coil over 15 years ago, and since then has developed a complete product line. The Coils are precision wound to ensure a precise number of turns for each layer. During production, Western's versatile tooling permits the measurement of the electrical characteristics after each progressive layer, to ensure the Coil produces the most Homogenous magnetic field possible



The picture to the left illustrates the precision wind of wire with an Extra Heavy layer of insulation. This picture is of the outside surface of the coil after over 20 layers of wire have been wound below. Coils are typically wound with either 1000 or 2000 Turns of wire, so the operator can easily determine the Amp Turns of output, by multiplying the turns in the Coil by the reading of the Control's Digital Amp Meter. The meter can also be calibrated to measure Amp Turns. The Wire Coil is impregnated with a proprietary material to ensure no turn to turn breakdown.

When Coils are designed to be fully portable (WDV-8 to WDV-16), we use Aluminum Wire to ensure the lightest possible construction. When Coils are developed for fixed installations, or to be handled with specialized fixtures (WDV-18 and larger, as well as WRT-Series) we will often use Copper Wire to ensure the greatest output possible.

All Coils are finished and encapsulated in Permanent Molds, using Western's proprietary Urethane Rubber. This protective cover is very rugged and ensures the wire is fully protected from mechanical damage.

To bring electrical connections to the Outside Surface of the encapsulant (inside the Control Housing) we have developed very reliable cast in place Brass connections. The cheap alternative is the method our competitors use, a simple insulated Wire of questionable gauge.



Lastly, we encapsulate Aluminum Tie Bars Into the Coil assembly, for various reasons. The most common use is to fasten the Controls Housing to the Coil assembly (7 or more Tie Bars), followed 3 or more ID Wear Bars that protect the top inside surface of the encapsulant,

WDV-16 and larger Coils, such as WRT-Series, we include more Tie Bars, in strategic locations, for either more Wear Bars or to fasten handling equipment, process fixtures, etc.

Do not hesitate to ask your Western Instruments Distributor other questions about Western's W-Series Coils.