

Molding Procedure of 1.5 m Dipole

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The molding of the 1.5m dipole coils is made in the following way. ¹

Since these operations are made all manually at present time, deviations from this procedure could take place depending on the personality. All such deviations should be recorded in any case.

(1) Preparation

- Place the coil in the molding die.
- Tap it to be placed right in the die.
- Check the mandrel valves, valves in both ends must be closed off with no pressure in the cylinder.
- Check the main cylinder valves each two valves in both ends must be closed off with no pressure in the cylinder.
- Push in the coil under the press.
- Set up the end pressing bar. Check that the positioning piece is in the right position.

(2) Conditioning

- Pressurize the main pressure up to 300 psi to bring up the platten.
- Pressurize the mandrel up to 800 psi, close off the valve.
- Pressurize the main pressure up to 1300 psi.
- Bring the mandrel pressure down to 300 psi.
- Bring the main pressure down to 1000 psi.

(3) Heating

- Connect the inlet and outlet oil hose.

¹Distribution: R.Bossert, J.Brandt, J.Carson, S.Delchamps, I.Gonczy, M.Gordon, S.Gourlay, W.Koska, M.Kuchnir, M.Lamm, G.Pewitt, R.Sims, J.Strait, M.Wake

- Insert the temperature sensor and start the recorder.
- Turn on the oil circuit and heater.
- Check temperature controller setting. should be at 272 F.
- Record the starting time.
- Tighten the end pressing bar screw to give slight pressure.

(4) Pressing

- Wait until the temperature goes up to 180 F. It should take 20 minutes.
- Release main pressure down to 250 psi.
- Release mandrel pressure down to 150 psi.
- Pressurize end press up to 1500 psi.
- Pressurize mandrel pressure up to 1100 psi, close off the valve.
- Pressurize main pressure up to 6500 psi
- Release mandrel pressure down to 150 and go up to 800 again.

(5) Curing

- Watch the temperature to go up to 237 F and record the time. This should take about 10 minutes.
- Check the gap between upper and lower tooling. If there is any gap, record it and check all the valves.
- Wait until 90 min since it reached 237 F.
- Turn off the heater and wait for another 10 minutes.
- Turn on the water for cool down. This provides an 110 minutes of effective curing time.
- Wait until the coil is cooled down to below 100 F.
- Remove the coil from the press.

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Short Magnet Molding Plan

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