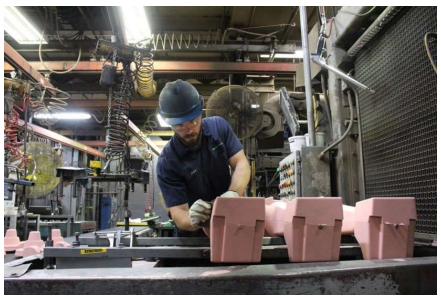
The Core Roots of the Foundry

Jul 19, 2019

Welcome to the core room; the first stop in the Waterloo Foundry Operations. Here the central, hollowed-out cavity of the castings are made. Giving the foundry its ability to form complex shaped castings.

Like its name implies, the core room produces the cores. A team of just over 20 people produce over one million cores, per-year using the following process. First, they pour sand, resin, and a catalyst into the machine which cures the mixture. Within the core room, Cold Box machines form all of the cores. This means that the core room does not use any open flames to heat the boxes which cure the cores. When the cores are cured, a chemical reaction occurs between the sand, resins, and catalysts and produces a solid core. Next, the operator cleans the cores. They remove the blow tube marks, (the mounds of excess sand created when the sand is blown into the core box), and the fins, (the extra sand that forms at the seams of the sore and can result in cracks inside the casting if not removed). After that, the cores are extracted and transferred to a conveyor to be dipped in a protective coating and sent through the dryer. Finally, the cores are transferred to a rack for transportation. Now, the core has finished its time in the core room, will continue to the mold line, (the next stop in the Foundry), and eventually be formed into the final casting.



After the Foundry finishes the final casting, it will be shipped to one of fourteen different John Deere locations with the possibility of being built into a tractor, dump truck, sprayer, or another John Deere vehicle. No matter where the final casting ends up, its original roots will remain the same: the foundry's core room.