

Jupiter Blend Premix Sand Maintenance

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A commonly asked question is how to recharge Jupiter Blend Premixed foundry sand. At some point in time you will notice that the sand doesn't hold together as well as it did when new, so it's time to recharge the heap.

The resin component of the sand typically does not need to be recharged because it is a clay-based material (bentone) that does not degrade significantly with use. What does happen is that the oil component is burned and driven off by the heat. This depleted oil condition will cause low "green strength", or weak bonding of the sand.

It is practical to replace the oil that is driven off from the heat of the molten metal and from evaporation. This can be done by adding a SMALL amount of 30 weight NON-detergent motor oil. I will typically add a cup of oil to 100 lbs of sand and mix it in thoroughly. It is important to wait for a day or so to see the results of the addition. This will give the oil time to be absorbed and dispersed throughout the heap. It's real easy to add too much oil and wind up with a rather sticky sand. This isn't a big problem, but it can cause the sand to stick to the pattern if you get too much oil in the mix. If this happens just mix the sand some more and give it time. Usually the oil will diffuse thru the sand and some will evaporate out. If you have really overdone it, it may be necessary to add more sand and resin and re-mull the batch. It is important to note that this requires a foundry muller, so it's a good idea to be real careful not to overdo the addition of oil.

Burned sand in the heap can also be a problem. The sand that is burned is generally right next to the part, so I scrape it off when shaking out my parts and discard it so that the carbon doesn't build up in the sand heap over time. Excess carbon in the mix can absorb the oil as well as bind up the bentone thus weakening the mix and creating a "dry" sandy condition. The heap will have a dark burned appearance when it gets real bad. At this point it is probably best to discard the heap and start over with new material.

To prevent oil loss to evaporation it's best to keep your heap covered with a plastic sheet when not in use. This will keep the cats out and the oil evaporation down, both of which are vital to maintaining a good sand heap.