

HOW INDUCTION COOKING WORKS

Induction cooking works by using an electromagnetic field to heat the cookware. This is very different from the traditional gas flame or electric coil cooking experience. Special cookware is also needed. Cookware used on an induction cooktop must have iron content. This is what makes the pan magnetic and allows the transfer of energy to the pan or pot you are using.

Electromagnetic Energy + Magnetic Pans = Fast, Efficient Induction Heating

The key to induction cooking is electromagnetic energy. This kind of energy is around us every day in the form of AM and FM radio, cell phones, wireless laptops, microwave ovens, infrared, and visible light.

It operates on a two part system. First, beneath the ceramic surface of an induction cooking product is a copper coil. When an electrical current is passed through this coil it creates an electromagnetic field of energy. Second, an iron core pan is placed on the cooktop. At this point the heat is activated around the pan. The surface remains cool until both these steps are completed. The video below further illustrates the mechanics of induction cooking.

Magnetic Cookware Required for Induction Heating

For induction heat to occur, the bottom of the pan must be made of some iron, making the pan magnetic. You can perform a simple test to see if your pan will work with an induction cooktop.

If a magnet sticks to the bottom, the pan will work on an induction cooktop. When the magnetic pan is placed on the cooking surface, the iron molecules in the pan begin to vibrate 20,000-50,000 times per second. It is the friction between those molecules that creates heat. All of the heat is contained in the bottom of the pan; this is why the surface remains cool while your cookware stays hot.