

## Radio Frequency Applications

Radio Frequency heat is used for a variety of heating and drying applications, including: Ceramics, Foam, Fiberglass, Composites, Textiles, Food Tempering & Pasteurizing, Wood and Paper.

- Fiberglass package drying times are reduced from 24 hours to 1.5 hours. Binder migration, package deformation and discoloration are reduced and the process is easily automated.
- Foam products are dried with cycle times reduced from 4 hours to 1 hour. Many types of foam are dried with a hybrid system of convection and Radio Frequency.
- Ceramic fiberboard and shapes are dried faster with reduced binder migration with combined convection and Radio Frequency.
- Ceramic powders and filter cakes are dried faster and at lower temperatures, improving overall purity and quality.
- Ceramic honeycomb extrusions and metallized coatings are dried much more quickly and uniformly.
- Seafood blocks can be tempered in minutes with final temperature controlled to within  $\pm 1^{\circ}\text{C}$
- Dyed yarn packages drying time is reduced and the drying provides consistent color throughout.
- Baked goods are dried in a conveyor parallel plate system after baking to remove moisture.
- Pultrusion lines can increase speeds up to ten times with Radio Frequency preheaters, especially for large diameter solid shapes.
- Veneer can be re-dried to turn scrap and low grade product into higher grade product with uniform moisture content
- Paper and Polymer webs can be combined with flotation dryers or cylinder dryers for more efficient drying. Radio Frequency dryers placed in a cylinder drying line have increased speed by over 10% with only 3% increase in Radio Frequency energy usage. The use of Radio Frequency Radio Frequency to drive moisture to the surface makes the follow-on cylinders efficient.



**150 KW Combination RF/Convection Dryer**

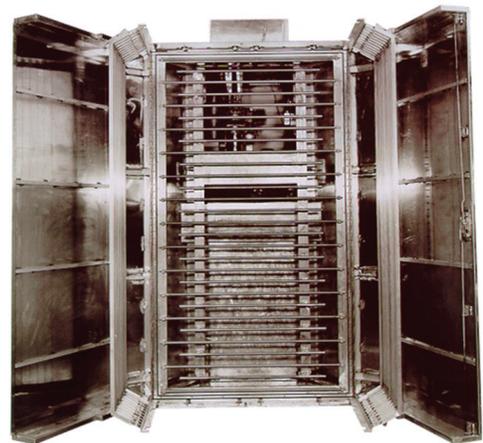


**100 KW RF Fiberglass Dryer**

- Coatings are dried quickly with Radio Frequency energy on temperature-sensitive films without overheating the film. The coating absorbs the Radio Frequency but the polymer film absorbs very little Radio Frequency energy and thus heats very little.
- Non-woven fibers coated with a resin binder are dried quickly and evenly. Webs can be supported on a conveyor or airborne through the applicator.
- Fiberglass mats are dried with higher speeds and produce a more consistent quality product.
- Fiberglass strands with latex are dried very rapidly – in 4 feet before the strand contacts a pulley or roll. More importantly, the latex forms a near perfect bond between the many filaments constituting the strand.
- Moisture profiling is a very important application since the amount of energy absorbed from the field is a function of the moisture present, wet spots or streaks absorb more energy. This result is a more uniform moisture profile of the web leaving the dielectric.



15 KW RF Web Dryer



100 KW RF Strand Dryer