## **Additive Manufacturing**



Retort furnace NR 150/11 for annealing of metal parts of 3D-printing

Additive manufacturing allows for the direct conversion of design construction files fully functional objects. With 3D-printing objects from metals, plastics, ceramics, glass, sand or other materials are built-up in layers until they have reached their final shape.

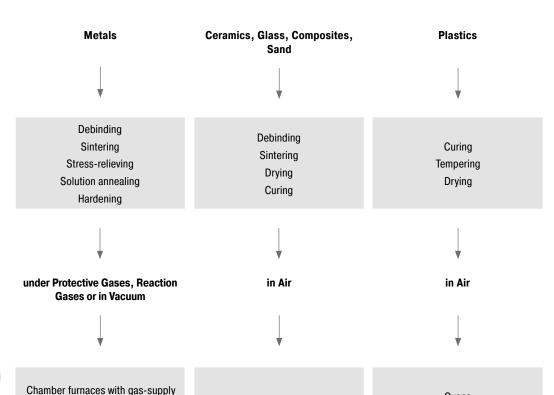
Depending on the material, the layers are interconnected by means of a binder system or by laser technology.

Many methods of additive manufacturing require subsequent heat treatment of the manufactured components. The requirements for the furnaces for heat treatment depend on the component material, the working temperature, the atmosphere in the furnace and, of course, the additive production process.

Nabertherm offers solutions from curing for conservation of the green strength up to sintering in vacuum furnaces in which the objects of metal are annealed or sintered.



Oven TR 240 for drying of powders





Chamber oven KTR 2000 for curing after 3D-printing



Compact tube furnace for sintering or annealing under protective gases or in a vacuum after 3D-printing



HT 160/17 DB200 for debinding and sintering of ceramics after 3D-printing

Debinding in chamber furnaces with air circulation

Sintering in chamber furnaces

Debinding and Sintering in combi furnaces

Dewaxing Furnaces

boxes

Hot-wall retort furnaces

Cold-wall retort furnaces

See also catalog

Thermal Process Technology

See also concepts for drying, debinding, thermal cleaning and wax burnout in catalog Advanced Materials Ovens
Chamber dryers
Forced convection chamber furnaces

See als concepts for drying, debinding, thermal cleaning and wax burnout in catalog Advanced Materials as well as catalog Thermal Process Technology I

Also, concomitant or upstream processes of additive manufacturing require the use of a furnace in order to achieve the desired product properties, such as heat treatment or drying the powder.