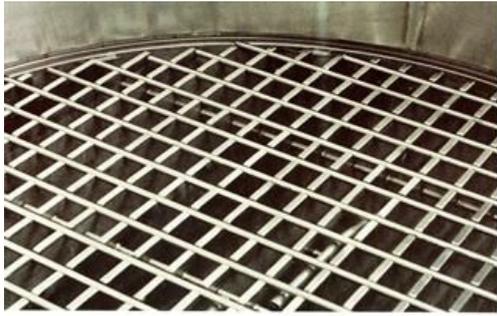
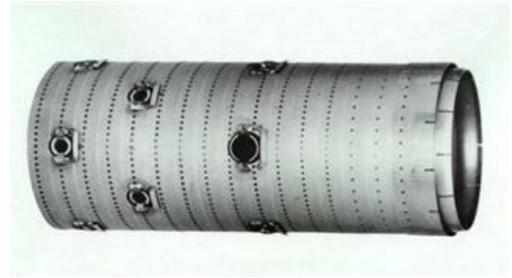


# HAYNES<sup>®</sup> 230<sup>®</sup> alloy

## Applications



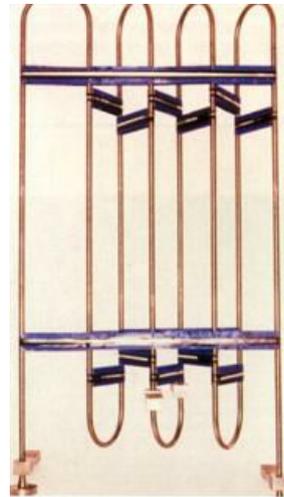
Nitric acid catalyst grids support made from HAYNES<sup>®</sup> 230<sup>®</sup> alloy plate and bar. Excellent creep strength at 1700°F (927°C) makes the alloy highly suitable for this application.



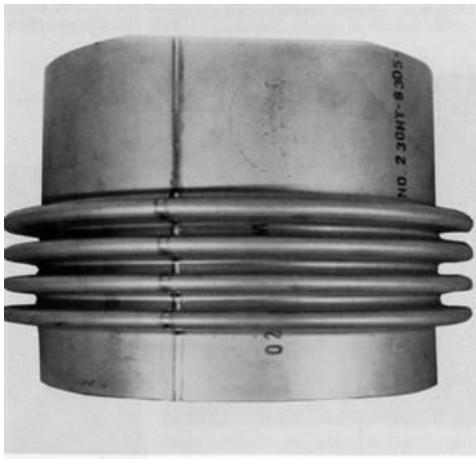
Textron Lycoming gas turbine engine combustor made of HAYNES<sup>®</sup> 230<sup>®</sup> alloy.



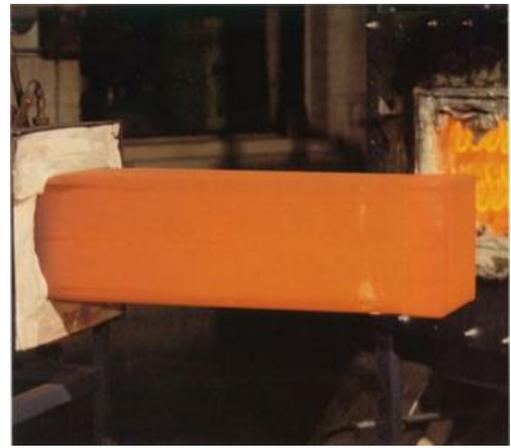
Prototype 230<sup>®</sup> combustor for Dresser-Rand DR-990 industrial turbine.



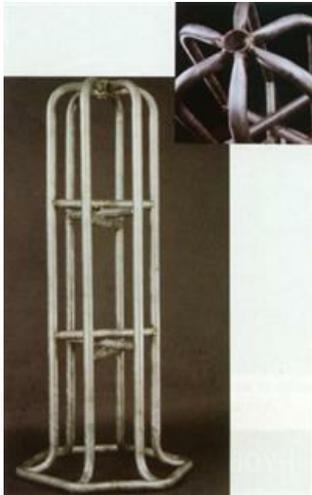
Resistance-heated 230<sup>®</sup> superheater tubes at the Penn State Applied Research Laboratory. Used to produce about 1625°F (885°C) high-pressure steam.



Prototype 230<sup>®</sup> high-temperature expansion bellows made of 0.020-inch (0.5mm) thick sheet in a catalytic cracker configuration.



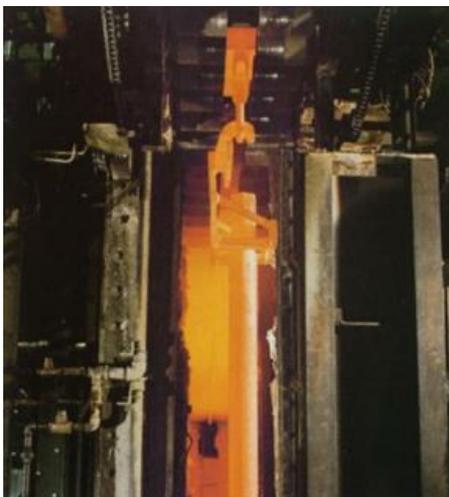
This horizontal electrically fired 230<sup>®</sup> retort replaced an alloy 600 retort which lasted only an average of eight months in 1400 to 2200°F (760 to 1205°C) service in hydrogen atmosphere. The 230 retort was still in excellent condition after 24 months service, as shown.



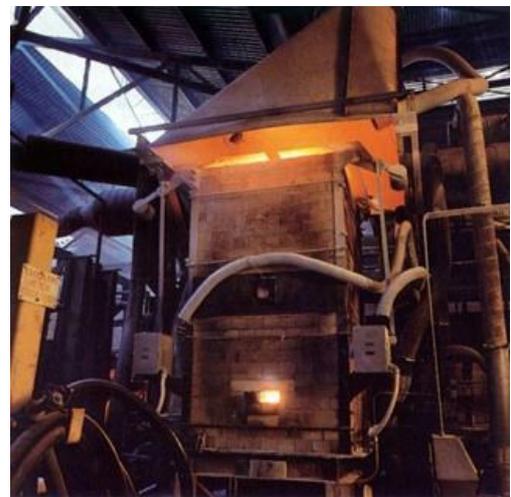
Wire annealing fixture of 230<sup>®</sup> alloy reduces thermal mass and cycle times after replacing massive carbon-steel "stub" used previously.



Fabricated heat-treating basket for vacuum furnace application to 2300°F (1260°C). Made from 1/2-inch (12.7 mm) diameter 230<sup>®</sup> bar.



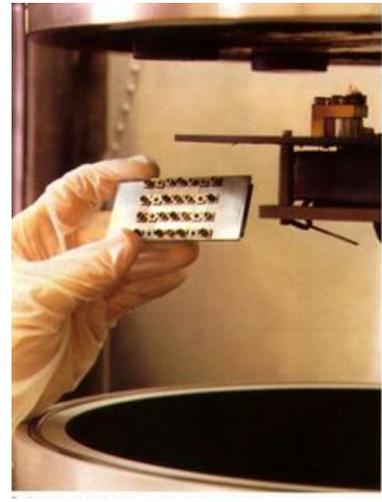
This striking shot of a HAYNES<sup>®</sup> 230<sup>®</sup> heat-treat fixture was taken at a leading off-road automotive equipment plant. This conveyor fixture operates at 1550°F (845°C) with a subsequent water quench followed by a four hour cycle at 1050°F (565°C).



HAYNES<sup>®</sup> 230<sup>®</sup> damper atop this glass melting furnace withstands 2300°F (1260°C) for short times and 2000°F (1095°C) for sustained periods.



Cast heat-treat basket of 230<sup>®</sup> alloy in use at Alloy Foundries, Division of the Eastern Company, Naugatuck, Connecticut.



Substrate holder and box of 230<sup>®</sup> alloy resist temperatures of 1650°F (900°C) during the production of semiconductors.



230<sup>®</sup> retorts operate at 2100°F (1150°C) with a hydrogen atmosphere (inside) and combustion products outside.