

Abstract

The invention relates to an ethylene cracking furnace having a multi-pass radiant coil, comprising at least one radiant section. In the radiant section there are provided with
5 bottom burners and/or sidewall burners, and at least one set of multi-pass radiant coil longitudinally arranged in the radiant section. The multi-pass radiant coil is a four- to ten-pass type radiant coil. At least one tube of the multi-pass radiant coil is arranged to be spatially adjacent to a tube which is not consecutive to said at least one tube. With this arrangement, the thermal radiation influence between tubes with high
10 temperature can be reduced, so that the tubes with low temperature can absorb the radiation heat from the tubes with high temperature. Therefore, the surface temperature of the tubes with high temperature can be reduced, thus extending the lifetime of the radiant coil and the operational cycle of the cracking furnace.