

PROBLEM 13-11N QUESTION

Location Of Maximum Clad And Fuel Temperature For A Uniform Axial q'''

Consider a fuel rod in a channel (an equivalent annulus) cooled by a single phase flow over its entire axial length L . In this arrangement the heat transfer coefficient is constant over the axial length L . Take the fuel rod volumetric energy generation rate, q''' , as uniform both axially and radially. Identify the axial locations of the maximum clad outside temperature and the fuel centerline temperature. See figure for nomenclature to be used. Be sure to present the basis for your answer.

