

عنوان مقاله:

Fatigue Analysis of an Ethane Gas Drier Pressure Vessel Regarding ASME SEC VIII, Div. 2, Ed. 2017

محل انتشار:

دهمین کنفرانس مبدل های گرمایی، چیلر و برج خنک کن (سال: 1397)

تعداد صفحات اصل مقاله: 54

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خلاصه مقاله:

The structural integrity of mechanical components during several transients should be assured in the design stage. This requires a fatigue analysis including thermal and stress analyses. This study performs a fatigue analysis of an Ethane Gas Drier Pressure Vessel according to ASME SEC VIII, Div. 2, Ed. 2017 by means of the rain flow method. With regards to thermal conditions, the transient thermal analysis is performed and the results are applied to develop a finite element model which considers the cyclic and static loads of equipment to calculate the stresses. The stresses are imported to the fatigue assessment of ASME SEC VIII, Div. 2, Part 5, Ed. 2017 and achieved permissible number of cycles. Eventually, cumulative fatigue damages are obtained for each parts of the Ethane Gas Drier. All of them have been performed by ANSYS V16.1 which is the internationally recognized tool based on the finite element method (FEM).

کلمات کلیدی:

Ethane Gas Drier, ASME SEC VIII, Div. 2, Ed. 2017, Rain flow Method, Fatigue Analysis, Cyclic Load, FEM

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