سیویلیکا - ناشر تخصصی مقالات کنفرانس ها و ژورنال ها
گواهی ثبت مقاله در سیویلیکا
CIVILICA.com

عنوان مقاله:

Simulation of a New Process Design to Fabricate a Rectangular Twist Waveguide Using Extrusion and a Twist Die

محل انتشار:

مجله شکل دهی مواد, دوره 6, شماره 2 (سال: 1398)

تعداد صفحات اصل مقاله: 10

نویسندگان:

Mina Amiri - *Department of Materials Science and Engineering, School of Engineering, Shiraz University, Shiraz, Iran*

.Ramin Ebrahimi - *Department of Materials Science and Engineering, School of Engineering, Shiraz University, Iran*

خلاصه مقاله:

The aim of the present study is to determine the feasibility of making a rectangular twist waveguide used to rotate electromagnetic waves. For this purpose, the process of fabricating an aluminum rectangular twist waveguide was simulated by making use of finite element method and Deform software. The optimum length and angle of the twist die for manufacturing a twist waveguide with inner cross sectional dimensions of 22.86 mm × 10.16 mm and a length of 50 mm and twisting angle of 90 degrees were investigated. Moreover, the effect of certain factors such as the length, thickness, cross section dimensions of the waveguide and friction on the optimum length of the twist die and cross sectional distortion was studied. The results of this study indicated that the length of the twist die had an influence on the amount of twisting, while friction was of no importance. In addition, comparing the values of effective stress and flow stress at the cross section of the workpiece behind the twist die depicted that the workpiece would not .yield behind the twist die due to smaller values of effective stress

کلمات کلیدی:

Extrusion, Rectangular twist waveguide Simulation, Twist die

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1159107