3 layer Flat Spiral Die Design and It’s Experiments

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Abstract

There are two main types of coextrusion blown film dies: concentric (cylindrical spiral, nested mandrel) and stack (flat spiral die, pancake). The flat spiral die has been used widely to produce multilayer blown film due to good thermal isolation and film uniformity, low pressure drop, and short residence time of the material in the die. In this work, 3 layer flat spiral die was designed by the CAE software, VEL FLOW2000. Also the 3 layer blown films, PE/PE/PE, PE/PA6/PE, were carried out to correlate with the CAE results.