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Design of the Die Land for Cross Head Dies with Asymmetric Cross Section

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The aim of the present work was to determine a geometrical correlation for designing die lands of metal inserted cross head dies using computational flow dynamic (CFD) method. A 3-dimensional isothermal Newtonian flow analysis was performed on asymmetric profile dies. The extent of uniformity of velocity counters across the die outlet was considered as the design criterion. The results predicted for different profile shapes showed there is a close correlation between the ratio of different sections of the die land inlet and those of the die outlet, such that a geometrical correlation factor could be defined for designing the die lands for cross head dies with asymmetric cross section.