

600d Instant Coffee Crystals - Product and Process Development

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The production of instant coffee in the form of shiny crystals to improve product quality and enhance consumer appeal presented a unique technical challenge for researchers and engineers. It required considerable imagination and thinking outside the box to arrive at a feasible solution. A unique extrusion melting and forming process was developed for converting spray dried instant coffee powder into a homogeneous melt that could be shaped and stretched continuously to produce a thin, shiny, translucent film of thickness less than 100µm. At this stage, it was possible to encapsulate delicate coffee flavors and aromas into the melt to enhance product quality. The thin film of instant coffee was rapidly cooled to ambient temperature to form a coffee glass that was shiny on both sides, dark brown in color and semi-transparent. The coffee glass was granulated and screened to form shelf-stable, free-flowing, shiny crystals of instant coffee. The instant coffee crystals can be blended or agglomerated with any coffee product to formulate and develop new products with unique shiny appearance and superior taste.