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## Low Pressure Injection Molding (LPIM) In Ceramics Materials – Preliminary Studies Of The Binders Extraction Process

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The typical composition of organic additives, also called binders, to manufacture parts by injection molding process consists of four types: binders (main component), plasticizers, dispersants and lubricants. Binders give the necessary rheological behavior to the feedstock for injection molding and the cohesion to the green part. Plasticizers lower the viscosity of the binder. Dispersants improve the state of dispersion of the powder in the organic phase and prevent the formation of agglomerates. Finally, lubricants reduce wear between the feedstock and the tools, during the molding injection. These organic additives should be removed of the molded parts before of the densification obtained by sintering process. Taking account the fact that the various types of organic additive present different viscosity and different characteristics in the decomposition, when melted, the extraction process is one of the most important and critical stage of the low pressure injection molding (LPIM) process.. The objective of this work is analysis and studies the influence and behavior of these organic additives in LPIM to covalent ceramic material, optimizing the heating rate and the atmosphere used in extraction process, seeking to prevent that the parts suffer collapse or rupture during the LPIM process.