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To whom it may concern

Ihre Zeichen	Ihre Nachricht vom	Unser Zeichen	☎(0 30) 314-	Datum
		Ro	24466	12.06.2012

APPRECIATION

of the doctoral dissertation:

"INVESTIGATION OF DIE DROOL PHENOMENON DURING HDPE MELT EXTRUSION"
Author: Ing. Jan Musil
Scientific coordinator: Prof. Ing. Martin Zatloukal, Ph.D.

The die drool phenomenon is an instability occurring in a wide variety of polymer processing techniques, from which melt extrusion one of the most essential ones is. On the other hand, high density polyethylene (HDPE) is an extremely important polymer, with a considerable growing market especially in Asia. Therefore, the doctoral thesis of Mr. Musil is simultaneously focused both in a crucial topic and in an appropriate material studied.

A positive aspect of this doctoral thesis is that the knowledge and understanding won for tackling the drool phenomenon during extrusion is of high interest not only from the industrial application, due to the potential optimization of industrial processes, but furthermore from the scientific point of view, due to the fundamental questions answered related to the origin and control of this instability.

It is remarkable in this thesis the detailed research performed. The detailed explanations of the basic concepts and antecedents of the problem help the reader to understand the systematic path followed by the author. Additionally, the wide range of experimental techniques like Fourier transform infrared spectroscopy, differential scanning calorimetry, gel permeation chromatography, besides rheology and the digital image analysis give deep support to the conclusions achieved.

Regarding the four original papers published and submitted, they are structured in such a way that corroborates the logical path mentioned before. The analysis of the die drool phenomenon is presented in the first paper, followed by the influence of the structure, elasticity and shear viscosity of the polymer reported in the second paper. In the third and fourth submitted manuscripts, the influence of the high molecular weight tail and even a proposed solution to reduce the die drool

phenomena are presented, respectively.

Therefore, due to the broad discussion, originality in the careful selection of materials and approach used, as well as the clear explanation and proposal of solution of the die drool phenomena during HDPE extrusion, I express my full support for this doctor dissertation and I am looking forward to being present in the respective PhD defence from Mr. Musil.

For any concern on the subject of the present letter, please do not hesitate in contact me.

Best regards
Sincerely yours,

Víctor Hugo Rolón Garrido

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