# Article information:

Influence of structure gradients in injection moldings of isotactic polypropylene on their mechanical properties - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0032386120303864>

# Article summary:

1. The internal structure of injection molded model components made from a commercial non-nucleated isotactic polypropylene grade is studied.

2. Changes in the polymorphic state, degree of crystallinity and spherulitic superstructure are quantified depending on the distance from the outer surface.

3. Relations between structural features and mechanical properties measured at small and large deformation are discussed.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Influence of Structure Gradients in Injection Moldings of Isotactic Polypropylene on Their Mechanical Properties” provides an overview of the influence of structural features on mechanical properties for injection molded components made from a commercial non-nucleated isotactic polypropylene grade. The article is well written and provides a comprehensive overview of the topic, including changes in polymorphic state, crystallinity, spherulitic superstructure, cooling rate, storage part of tensile modulus (E′), toughness (Wt), degree of crystallinity, and relations between structural features and mechanical properties measured at small and large deformation.

The article appears to be reliable and trustworthy as it is based on research conducted by experts in the field who have provided evidence to support their claims. Furthermore, the article does not appear to be biased or one-sided as it presents both sides equally and explores counterarguments where appropriate. Additionally, there does not appear to be any promotional content or partiality present in the article.

However, there are some points that could be improved upon such as providing more evidence for some of the claims made throughout the article as well as exploring possible risks associated with injection molding components made from this type of material. Additionally, there could be more discussion around unexplored counterarguments which could provide further insight into this topic.

# Topics for further research:

* Injection Molding Polypropylene Mechanical Properties
* Crystallinity and Polymorphic State of Polypropylene
* Spherulitic Superstructure of Polypropylene
* Cooling Rate Effects on Polypropylene
* Tensile Modulus and Toughness of Polypropylene
* Risks of Injection Molding Polypropylene

# Report location:

<https://www.fullpicture.app/item/8bb6c8a604a70a5218d07a50b860165e>