

Gel storage modulus and hardness

As expected, the results manifested that the higher the KC addition (0.75 %-1.0 %, w/w), the greater the hardness and storage modulus G? of the gel. Moreover, as the droplet size of emulsion reduced (0.5-1.0 mm), it interacted more strongly with the gel matrix and the oxidative stability of the oil in emulsion gel was enhanced. However ...

The results showed that in the range of NSI of 21-74%, bulk density of 0.41-0.47 g/cm 3, and gel storage modulus of 3,800-5,400 Pa, the torque and specific mechanical energy raised with the decrease in NSI and the increase in bulk density and gel storage modulus. The lower the moisture content of the extrudate was, the higher its hardness.

Increasing emulsion oil content enhanced the storage modulus, relaxation modulus, and hardness of gels, which indicated sodium caseinate-stabilized emulsions were active fillers in the starch gel. Thus, printed products with high oil content were less prone to collapse when selecting models with higher height.

The elastic modulus and hardness are strongly correlated with the microstructure of polycrystalline specimens, because pores and boundaries will reduce the elastic modulus and hardness [13]. Transparent polycrystalline silicon nitrides are free of pores and grain boundary (GB) are important factor affecting the hardness and transparency of ...

Gummies are gelatin-based confectionery gel products where the sweeteners play vital roles in the product texture. This study focused on the impacts of sweeteners, which make up ~70-80% of the total solids, on the sol properties, gelling, and melting behaviors of gelatin (4-6%) gels. Gelling and melting properties of gelatin solutions with and without ...

In general, if you plot the indentation (i.e. Vickers) hardness against the elastic modulus for a large range of materials (using software like CES from Granta makes this really easy since both properties are listed in the database) you will find that the two do increase together. In non-metals, a large fraction of the indentation deformation ...

Influence of free carbon on the Young's modulus and hardness of polymer- derived silicon oxycarbide glasses Gian Domenico Sorarù, Lakshminath Kundanati, Balanand Santhosh, Nicola Pugno Abstract Silicon oxycarbide (SiOC) glasses in the form of thin, dense, and crack-free samples were fabricated according to the polymer pyrolysis route starting from cross- linked ...

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