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SELECTED PROPERTIES OF AXIS-SYMMETRICAL EXTRUDED PRODUCTS MADE OF PVC AND MODIFIED WITH BLOWING AGENTS

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The extrusion of cellular plastics differs from the extrusion of solid plastics in that the former process gives the product a diphasic plastic-gas structure with the smallest possible and most evenly distributed gas bubbles. Cellular structure is obtained by introducing into the input plastic a blowing agent (porophor) in the form of an inert gas, low-boiling liquid or solid body. If the blowing agent is in a liquid or solid state, it changes into a gaseous state under certain conditions of the extrusion process. Research on cellular extrusion conducted by the authors focuses, inter alia, on the production of products from cellular plastics, which results in reduced costs of purchasing plastics, costs of energy required by the process and transport costs, etc. Research on the cellular extrusion of thermoplastics focuses on the process where product properties are modified by changing the conditions of extrusion and the properties of the processing line structural elements. The extrusion of products with the use of blowing agents results in new, modified physical and technological properties of cellular products. In the research described in this paper, a blowing system was used with an endothermic decomposition characteristic, occurring in granulated form with a diameter ranging from 1.2 to 1.8 mm. The blowing agent constitutes a mixture of sodium bicarbonate and citric acid. In the research described, a blowing system was used, dosed within the range between 0.2 and 1.0 percent by mass. As a result of the extrusion process of PVC modified with blowing agents, an extrudate in the form of an axis-symmetrical rod was obtained. The conditions of the extrusion and cooling process were properly selected, which made it possible to obtain a product with solid external surface and cellular