

## **TUBE – OPTIMAL CHOICE OF CONTAINER FOR SEMI-SOLID MEDICINES**

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At the moment, as containers for soft drugs jars and tubes are used. The advantage of a tube as the package that allows the tube to dose the required amount of product, extruding it directly to the application site. Furthermore, the product tube is protected from damage, evaporation, and other light effects, such as contamination with microorganisms. Throughout the world are widely used metal tubes, polymeric and composite laminates tubes. Construction material of modern tubes has good barrier properties, is inert to products, contained within, provides the strength and tightness of the case, and securely holds the decorative coatings and printing design of tubes. The undeniable advantage of tubes over other types of packaging is their compactness, tightness and high barrier properties. Tubes allows precise content dosing without any additional devices, provide long-term storage of the product and convenience in use.

Tubes are distinguished by the type of materials: aluminum (metal), plastic (extrusion), laminate. For today aluminum tubes which possess high barrier properties are widely distributed. They are certainly practical, but their consumer properties are far from perfect. For example, the ability to print on aluminum is limited. High-resolution image and the exact combination of colors can be applied on laminate. In other words, the picture on the laminated tube will look brighter, clearer and more multicolored than aluminum. In the production of laminate tubes colored and outer barrier layers can be combined, a unique appearance can be achieved. Laminate tubes can be offered to a customer without secondary packaging (packet) namely because of their reliability and colorful print. This reduces overhead costs associated with the packaging of the finished product. Laminate tubes keep their shape well during transport and use. Unlike aluminum, the laminate tube has neither wrinkles nor cracks. The tail parts of laminate tubes can be given different shapes (eg, a curve or hook). So laminate tubes are far ahead of metal ones on visual appeal, which is a strong advantage in the fight for the attention of customers. Laminate tubes have a distinct advantage over extrusion, due to its high barrier properties. Therefore, laminated tubes are used in areas where packing in plastic tubes is impossible or undesirable. Based on the above said, we have chosen laminate tube as a container for packing a topical gel for the treatment of the upper respiratory tract diseases.