Brazil is one of the world’s top five chicken meat producers and it is expected to remain as a leading producer due to its low production cost and competitive export prices. This study focused on analyzing the freezing process of chicken frankfurter and bologna in an industrial forced-air freezing tunnel, instead of the commonly used lab-scale apparatus. The tunnel average temperature was -30°C. Products were placed in several layers in corrugated cardboard boxes and temperature data loggers were inserted in them to record the internal temperature during the freezing process. Freezing curves were used to determine the freezing time ($t_f$), initial freezing point ($T_f$) and final freezing point ($T'_m$). $T_f$ and $T'_m$ for frank sausages were -2.5°C and -9.7°C, respectively, while $T_f$ and $T'_m$ for bologna were -4.5°C and -10.1°C. Products placed in different layers had significantly different freezing times. Freezing occurs at a greater rate for products placed in more external layers than internal ones. Besides this, freezing curves for the external layers showed characteristic behavior for rapid freezing while the curves for internal layers could be described as slow freezing. The external layers of product were subjected to heat transfer by convection showing its importance to decrease freezing time. The results strongly suggest that products placed in different layers could have distinct quality properties. Further research should be performed to evaluate the product quality. The findings allowed a better understanding of the freezing process in an industrial tunnel.