Due to advances in automated manufacturing systems and automatic inspection equipment, complete inspection has drawn increased attention recently and has become a widespread practice. In a complete inspection plan, all of the items are subject to acceptance inspection. If an item fails to meet the predetermined specifications, it is rejected. In this paper, economic complete inspection plans are developed in situations where rejected items are reworked. Complete inspections based on the performance variable of interest or a variable which is correlated with the performance variable are considered. Cost models are constructed which involve cost incurred by imperfect quality, rework cost, and quality inspection cost. Methods of finding the optimal complete inspection plans are presented and numerical examples are given.