ABSTRACT

In an exposure apparatus, an exposure of a substrate (P) is carried out by filling at least a portion of the space between a projection optical system (PL) and the substrate (P) with a liquid (50) and projecting the image of a pattern onto the substrate (P) via the projection optical system (PL). An optical element (60) and a barrel (PK), which are in contact with the liquid (50) when the substrate (P) is moved, are surface-treated for adjusting the affinity with the liquid (50). Consequently, generation of bubbles in the liquid between the projection optical system and the substrate is suppressed and the liquid is always retained between the projection optical system and the substrate, thereby creating a good immersion state.