## Answer

The soundness of the rule follows by mathematical induction from the following observations:

$$[\![P \Rightarrow \Box P]\!](\sigma) \equiv ([\![P]\!](\sigma_1) \Rightarrow (\forall i \in Nat : [\![P]\!](\sigma_{1+i}))$$
$$[\![P \Rightarrow P']\!](\sigma^{+i}) \equiv [\![P]\!](\sigma_{1+i}) \Rightarrow [\![P]\!](\sigma_{2+i})$$