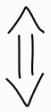


$$\textcircled{1} \quad \begin{cases} p: \tilde{X} \rightarrow X \\ q: \tilde{Y} \rightarrow Y \end{cases} \text{ rivestimenti} \Rightarrow p \times q: \tilde{X} \times \tilde{Y} \rightarrow X \times Y \text{ rivestimento} \\ (\tilde{x}, \tilde{y}) \mapsto (p(\tilde{x}), q(\tilde{y}))$$

$$p: \tilde{X} \rightarrow X \text{ rivest}$$



$$\textcircled{1} \quad p \text{ suriettiva} \Rightarrow p(\tilde{X}) = X$$

$$\textcircled{2} \quad \forall x \in X, \exists U \subseteq X \text{ aperto, } U \ni x \wedge \exists \{\tilde{U}_j\}_{j \in J} \subseteq \tilde{X} \text{ aperti} \mid$$

$$\left\{ \begin{array}{l} p^{-1}(U) = \bigsqcup_{j \in J} \tilde{U}_j \\ \tilde{U}_j \cap \tilde{U}_k = \emptyset, \forall j, k \in J, j \neq k \\ p|_{\tilde{U}_j}: \tilde{U}_j \rightarrow U \text{ omeomorfismo } \forall j \in J \end{array} \right.$$

Analogo per q (con V al posto di U)

$$p \text{ suriettiva} \wedge q \text{ suriettiva} \Rightarrow p \times q \text{ suriettiva}$$

$$\text{i.e. } (p \times q)(\tilde{X} \times \tilde{Y}) := p(\tilde{X}) \times q(\tilde{Y}) = X \times Y$$

$$\forall (x, y) \in X \times Y, \exists U \times V \subseteq X \times Y \text{ aperto, } U \times V \ni (x, y) \wedge \exists \{\tilde{U}_j \times \tilde{V}_j\}_{j \in J} \subseteq \tilde{X} \times \tilde{Y} \text{ aperti} \mid$$

$$\left\{ \begin{array}{l} (p \times q)^{-1}(U \times V) = \bigsqcup_{j \in J} \tilde{U}_j \times \tilde{V}_j \\ (\tilde{U}_j \times \tilde{V}_j) \cap (\tilde{U}_k \times \tilde{V}_k) = \emptyset, \forall j, k \in J, j \neq k \\ p \times q|_{\tilde{U}_j \times \tilde{V}_j} = p|_{\tilde{U}_j} \times q|_{\tilde{V}_j}: \tilde{U}_j \times \tilde{V}_j \rightarrow U \times V \text{ omeomorfismi } \forall j \in J \end{array} \right.$$

