A look into the chrome - chemistry

The oxidation steps of the chrome atom which are important for the electroplating:

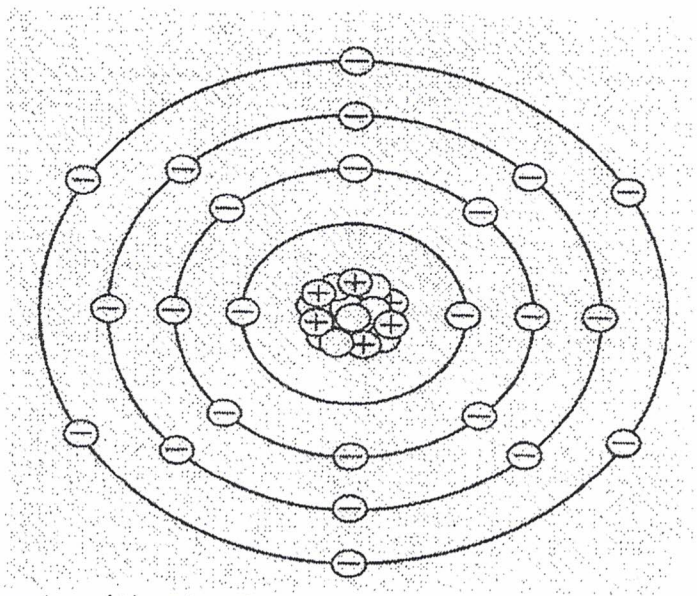
Hexavalent chrome (Cr^{6+}) = Chromate

Trivalent chrome (Cr^{3+}) = Chromite

Metallic chrome 0 (Cr^{0})

The value indicates the binding capacity or rather the saturation level of atoms. Metallic chrome forms a protective passive layer instantaneous after the precipitation. That is why the metallic chrome is not reactive - similar to noble metals.

The structure of a chrome-atom:



Within the core 24 protons (+) and neutrons;
On the atomic shell 18 electrons (-)
Difference = 6, thus hexavalent chrome

Whilst the electroplating process electrons are added by entry of direct current whereas the hexavalent chrome is reduced to metallic chrome 0.