The internal resisting moment results from internal compressive force, C, and internal tensile force, T, separated by lever arm, j d' (i.e., distance from the centroid of the concrete equivalent rectangular stress block to the centroid of the tensile stress block. When there are no external axial loads, summation of the horizontal forces gives:

Equilibrium Condition: $C - T = 0$

If moments are summed about an axis though the point of application of the compressive force C or tensile force T, the moment equilibrium of the free body gives:

$$M_n = T \, j \, d = C \, j \, d$$ where M_n is the nominal moment capacity

Figure 1: Beam Flexural Reinforcement with Structural Polymer and PVC Liner (Using Elastic Beam Theory and Equivalent Rectangular Stress Block Method for Concrete)