The resistance punching shear of the reinforced concrete slabs is subject to a constant debate due
to a lack of unification of its definition. Therefore the different norms present a definition of this
Ultimate State very unequal, obtaining great differences in the values of last loads due to this
phenomenon.

At the end of century XX great advances in the study of punching shear, due the improvements
that took place in the field of computers, allowed a better treatment of the data of tests that are made.
Also the definition of methods of calculation of the Ultimate State due to tangential tensions, as is the
case of the punching shear, has allowed to advance in a more rational explanation of this phenomenon.

In order to be able to analyze the Punching Shear an extensive bibliography has been compiled,
that as much corresponds to books specialized in Structures like articles of diverse scientific magazines.
Also everything has been compiled what the norms say about Punching Shear to be able to indicate its
main errors. Doing one first comparison of these norms, it can be seen perfectly as they define the
Ultimate State of Punching Shear of very different forms, as much in the section of study which they
choose, like in the parameters that must consider to obtain the last load of punching and in the importance
that have these variables in the obtaining of this load.

A chapter of this dissertation is destined to define the main differences that present these norms
in their formulations. In order to be able to decide the errors of these norms, an extensive compilation of
slab tests falling by punching has been made. From its data and results, it will be possible to compare the
load obtained from the application of the norms with the last load that takes place in the reality.

Tools that it has been used to have a certain criterion of qualification of these norms are:

- a statistical study of the safety factors (quotient between the last load of the tests and
  the rated load) obtained in each one of the norms. This statistical study has been made
  so much to the totality of the data tests like groups defined according to the value of
  each one of the variables that influence in the calculation. This division has been
  made to be able to see influences of these parameters in the calculation of the norms.

- a method of qualification of the results obtained in each one of the norms, that takes
  into account the existing difference between the values of the tests and the obtained
  values of the formulations of the norms considered. This method penalizes those
  norms that are too much of the safety side like which they are too reckless in its
  calculation.

From these tools it will be possible to be removed to conclusions from the good or bad definition
of the Ultimate State of Punching Shear of each one of the norms.

Finally it will be tried from the comparison of the theoretical results with the results of the tests
of defining a formulation of the last load of punching that adapts to the data of the compiled tests and that
improve of this form the obtained results of the different norms.