Description of the International Civil Aviation Organization (ICAO) LCN Pavement Strength Rating System

The following information is provided to assist operators in using the main pavement strength rating systems used at commercial airports to determine allowable operating weights.

LCN - The LCN (Load Classification Number) method of evaluating pavement was first published by ICAO in 1965 and takes into account the differences in pavement types between rigid (concrete) and flexible (asphalt & asphaltic/concrete). In order to use the system accurately the user should know the total pavement thickness for flexible pavement and the radius of relative stiffness (L-value) for rigid pavements. However, the pavement thickness and radius of relative stiffness for a particular runway are not frequently published in the standard airport information sources (Jeppesen, AERAD, DOD, etc.). Therefore it is common practice to use a standard thickness (20 inches for locations where narrow body airplanes operate, and 30 inches for airports where widebody airplanes operate) or a radius of relative stiffness (40 in.) when determining the allowed aircraft weight, based on the LCN. Because of the nominal inaccuracies for all cases in the LCN system, ICAO guidelines allow for a 10% overload in LCN allowable weight calculations (note that the overload allowance is left up to the airport authority to approve).

Please refer to Section 7 – “Pavements” of the respective Airplane Characteristics for Airport Planning documents for LCN charts and examples of how to calculate allowable operating weights.