Test Class

- LSAerodynamicsManager.CalcCDAtAlpha theCDWingCalculator = theLSAnalysis.new CalcCDAtAlpha();
- double cDIsolatedWing = theCDWingCalculator .integralFromCdAirfoil(alphaWing, MethodEnum.NASA_BLACKWELL, theLSAnalysis);

LSAerodynamicManager

CalcCDAtAlpha

This class calculates the drag coefficient of a winh having angle of attack as input.
The method of this class calls an object of CalcCDDistribution in order to evaluate the distribution of drag coefficient along the semspan.

CalcCdDistribution

This class calculates the drag coefficient distribution along the semispan generating an intermedate airfoil for 50 stations and calculating the CD for each of them starting from the CL calculated with NasaBlackwell or Schrenk method.

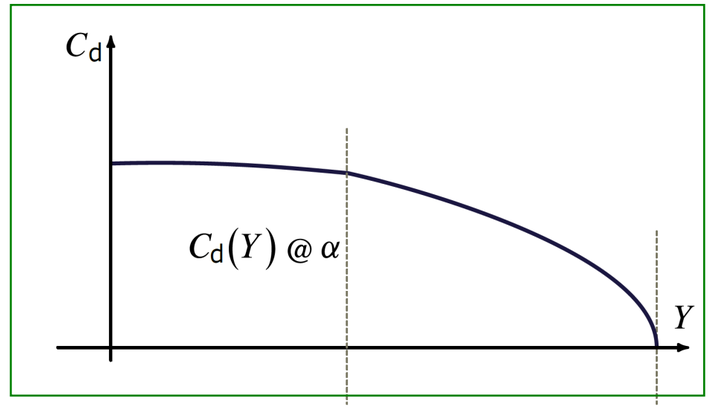
CalculateCd

This class calculates the drag coefficient at y station starting from Cl local calculated before.

CalcLiftDistribution

Output

CD at alpha



$$CD = CD_{min} + (CL - CL_{CD_{min}})^2 + k$$