How to Determine Gage Tolerance Based on Part Tolerance

A rule of thumb regarding tolerances on gages is to use 10% of the total manufacturing of piece part for gages, with 1/2 of the 10% to be applied against the GO and 1/2 of the 10% to be applied on the NOGO.

Tolerance Example #1

Part Size = .500 +.002/.000
GO = .500
NOGO = .502
Total manufacturing tolerance = .002
10% of .002 = .0002
1/2 of .0002 = .0001

Class Z would be recommended.

Tolerance Example #2

Part Size = .500 +.0005/.000
GO = .500
NOGO = .5005
Total manufacturing tolerance = .0005
10% of .002 = .00005
1/2 of .0002 = .000025

Class XX would be recommended.