WHAT IS CLAIMED IS:

1. A method of bonding one or more die to a wafer, comprising:

receiving a plurality of die, each die having a face side, a substrate material back side, and a thickness, each respective die face side including a planarized oxide layer protecting one or more metallized post structures connecting to a device structure formed in the die;

bonding each respective die face side of the plurality of die to a front side of a first handle wafer, such that the metallized post structures associated with each of the die lie in a common plane;

thinning each of the substrate material back sides of the bonded plurality of die to a uniform thickness;

deposit bonding a SiO_2 layer on the respective backsides of the plurality of die and an exposed front side of the first handle wafer;

bonding the back sides of the uniformly thinned plurality of die to a front side of a second handle wafer;

removing the first handle wafer by thinning; and

removing the planarized oxide layers from each respective die face side of the plurality of uniformly thinned die to reveal the one or more metallized post structures.

2. The method of claim 1, wherein the thickness of at least one of the die is different from the other die.

3. The method of claim 1, wherein the protective planarized oxide layer associated with each die includes a region of potential die singulation and handling debris, such that removal of the protective planarized oxide layers also removes the regions of the potential die singulation and handling debris.

4. The method of claim 1, further comprising:

fabricating each of the die device structures on distinct device wafers;

protecting each of the die device structures with associated oxide layers; and

singulating the die.

5. The method of claim 1, wherein at least one of the die comprises a compound device.

6. The method of claim 1, wherein backgrinding and CMP are applied to uniformly thin the substrate material back sides of the bonded die.

7. The method of claim 1, further comprising removing the second handle wafer by thinning in order to expose the die.

8. The method of claim 1, wherein each die comprises a Known Good Die and the second wafer has a diameter of approximately 200 mm.

9. The method of claim 1, wherein bonding the respective die face sides to the front side of the first handle wafer comprises application of a low temperature oxide bonding process to the respective die face sides and first handle wafer front sides.

10. The method of claim 1, wherein bonding the respective die face sides to the front side of the first handle wafer comprises application of an adhesive between the respective die face sides and first handle front sides.

11. The method of claim 1, wherein bonding the uniformly thinned die back sides to the front side of the second handle wafer comprises application of a low temperature oxide bonding process to the uniformly thinned die back sides and the second handle front side.

12. The method of claim 1, wherein bonding the uniformly thinned die back sides to the front side of the second handle wafer comprises application of an adhesive between the uniformly thinned die back sides and the second handle front side.

13. The method of claim 1, further comprising:

filling gaps between each of the die bonded to the first handle wafer with a strength enhancing polymeric material prior to thinning; and

removing the polymeric gap filling material either prior to depositing the SiO_2 layer or after removing the first handle wafer.

14. The method of claim 1, wherein bonding the respective die face sides to the first handle wafer further comprises precisely referencing each of the die within a predetermined percentage of a pitch of the associated metallized post structure of the die.