[0004] In a first aspect, a glass structure includes a glass carrier layer and a flexible glass substrate. The glass structure further includes an intermediate layer at least temporarily bonding the flexible glass substrate to the glass carrier layer. The intermediate layer includes a first debond layer attached to an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer. The first debond layer is at least partially resistant to a high temperature processing of the glass structure at a temperature of ~~greater than or equal to about 300° C, greater than or equal to about 400° C and even~~ greater than or equal to about 500° C. The first debond layer is configured to enable the flexible glass substrate to be debonded from the glass carrier layer after the high temperature processing of the glass structure. The first debond layer may also be at least partially resistant to a high temperature processing of the glass structure at a temperature of greater than or equal to about 300° C or greater than or equal to about 400° C.

[0005] In one example of the first aspect, the first debond layer includes a polyimide.

[0006] In another example of the first aspect, an average thickness of the intermediate layer is less than about 20 microns.

[0007] In yet another example of the first aspect, the glass carrier layer is attached to the first debond layer and the flexible glass substrate is attached to the adhesion layer.

[0008] In still yet another example of the first aspect, the flexible glass substrate is attached to the first debond layer and the adhesion layer is located between the glass carrier layer and the first debond layer.

[0009] In another example of the first aspect, the glass structure further includes a second debond layer located between the adhesion layer and the glass carrier layer.

[0010] In yet another example of the first aspect, the flexible glass substrate includes an average thickness of less than about 300 microns.

[0011] In still yet another example of the first aspect, an average thickness of the glass carrier layer is within a range of from about 300 microns to about 700 microns.

[0012] The first aspect may be carried out alone or with one or any combination of the examples of the first aspect discussed above.

[0013] In a second aspect, a method of creating a glass structure includes the step (I) of providing a glass carrier layer. The method further includes the step (II) of providing a flexible glass substrate. The method still further includes the step (III) of temporarily bonding the glass carrier layer to the flexible glass substrate with an intermediate layer comprising a first debond layer and an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer. The first

debond layer is at least partially resistant to a high temperature processing of the glass structure at a temperature of greater than or equal to about 500° C. The first debond layer enables the glass carrier layer to be debonded from the flexible glass substrate after the high temperature processing of the glass structure.

[0014] In one example of the second aspect, step (III) further includes the step of applying the first debond layer on a surface of at least one of the glass carrier layer and the flexible glass substrate.

[0015] In another example of the second aspect, step (III) further includes at least partially curing the first debond layer.

[0016] In yet another example of the second aspect, after at least partially curing the first debond layer, step (III) further includes the step of applying the adhesion layer to a surface of the first debond layer.

[0017] In still yet another example of the second aspect, step (III) further includes the step of applying a second debond layer to the other of the glass carrier and the flexible glass substrate.

[0018] In another example of the second aspect, step (III) includes applying the adhesion layer to the surface of the first debond layer prior to the step of applying the second debond layer to the other of the glass carrier layer and the flexible glass substrate.

[0019] In yet another example of the second aspect, the method further includes the step of curing the first debond layer to a polyimide layer.

[0020] In still yet another example of the second aspect, step (III) temporarily bonds the glass carrier layer with the first debond layer.

[0021] In another example of the second aspect, step (III) temporarily bonds the flexible glass substrate with the first debond layer.

[0022] The second aspect may be carried out alone or with one or any combination of the examples of the second aspect discussed above.

[0023] In a third aspect, a method of processing a glass structure includes the step (I) of providing a glass structure. The glass structure includes a glass carrier layer, a flexible glass substrate, and an intermediate layer attaching the flexible glass substrate to the glass carrier layer. The intermediate layer includes a first debond layer attached to an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer. The method further includes the step (II)

of processing the glass structure through a high temperature process at a temperature of

What is claimed is:

1. A glass structure comprising:

a glass carrier layer;

a flexible glass substrate; and

an intermediate layer at least temporarily bonding the flexible glass substrate to the glass carrier layer, wherein the intermediate layer includes a first debond layer attached to an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer,

wherein the first debond layer is at least partially resistant to a high temperature processing of the glass structure at a temperature of greater than or equal to about 500° C, and the first debond layer is configured to enable the flexible glass substrate to be debonded from the glass carrier layer after the high temperature processing of the glass structure.

2. The glass structure of claim 1, wherein the first debond layer comprises a polyimide.

3. The glass structure of claim 1, wherein the glass carrier layer is attached to the first debond layer and the flexible glass substrate is attached to the adhesion layer.

4. The glass structure of claim 1, wherein the flexible glass substrate is attached to the first debond layer and the adhesion layer is located between the glass carrier layer and the first debond layer.

5. The glass structure of claim 4, further comprising a second debond layer located between the adhesion layer and the glass carrier layer.

6. A method of creating a glass structure comprising the steps of:

(I) providing a glass carrier layer;

(II) providing a flexible glass substrate; and

(III) temporarily bonding the glass carrier layer to the flexible glass substrate with an intermediate layer comprising a first debond layer and an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer,

wherein the first debond layer is at least partially resistant to a high temperature processing of the glass structure at a temperature of greater than or equal to about 500° C, and the first debond layer enables the glass carrier layer to be debonded from the flexible glass substrate after the high temperature processing of the glass structure.

7. The method of claim 6, wherein step (III) further comprises the step of applying the first debond layer on a surface of at least one of the glass carrier layer and the flexible glass substrate.

8. The method of claim 7, wherein step (III) further includes at least partially curing the first debond layer.

9. The method of claim 8, wherein, after at least partially curing the first debond layer, step (III) further includes the step of applying the adhesion layer to a surface of the first debond layer.

10. A method of processing a glass structure comprising the steps of:

(I) providing a glass structure including a glass carrier layer, a flexible glass substrate, and an intermediate layer attaching the flexible glass substrate to the glass carrier layer, wherein the intermediate layer includes a first debond layer attached to an adhesion layer, wherein the adhesion layer is transparent to a laser beam used to ablate the first debond layer;

(II) processing the glass structure through a high temperature process at a temperature of greater than or equal to about 500° C; and

(III) de-bonding the flexible glass substrate from the glass carrier layer.