## CLAIMS

1. (Currently Amended) A method of manufacturing an extreme ultraviolet (EUV) mask blank comprising:

forming on a substrate a multilayer stack which reflects EUV radiation, the multilayer stack comprising a plurality of reflective layer pairs;

forming a capping layer on the multilayer stack; and

forming an absorber layer on the capping layer, the absorber layer comprising an alloy selected from the group consisting of an alloy consisting essentially of boron and nickel and an alloy consisting essentially of boron, nickel, and one or more of a nitrogen dopant and an oxygen dopant, the absorber layer having a thickness less than 30nm while achieving less than 2% reflectivity.

2. (Currently Amended) The method of claim 1, ~~wherein~~ the alloy ~~of boron and nickel comprises~~consisting essentially of about 2 wt.% to about 10.9 wt.% boron and about 89.1 wt.% to about 98 wt.% nickel.

3. (Currently Amended) The method of claim 1, ~~wherein~~ the alloy ~~of boron and nickel comprises~~consisting essentially of about 3 wt.% to about 9.9 wt.% boron and about 90.1 wt.% to about 97 wt.% nickel.

4. (Currently Amended) The method of claim 2, ~~wherein~~ the alloy ~~of boron and nickel comprises~~consisting essentially of 5 wt.% to about 7.9 wt.% boron and about 92.1 wt.% to about 95 wt.% nickel.

5. (Currently Amended) The method of claim 2, wherein the alloy ~~of boron and nickel~~ is amorphous.

6. (Currently Amended) The method of claim 1, wherein the alloy is formed by ~~co-sputtered~~ co-sputtering the boron and nickel with a gas selected from one or more of argon (Ar), oxygen ($O_2$), or nitrogen ($N_2$) to form the absorber layer.

7. (Original) The method of claim 1, wherein the alloy is deposited layer by layer as a laminate of boron and nickel layers using a gas selected from one or more of argon (Ar), oxygen ($O_2$), or nitrogen ($N_2$) to form the absorber layer.

8. (Original) The method of claim 1, wherein the alloy is deposited using a bulk target having the same composition as the alloy and is sputtered using a gas selected from one or more of argon (Ar), oxygen ($O_2$), or nitrogen ($N_2$) to form the absorber layer.

9. (Currently Amended) The method of claim 2, wherein the alloy ~~of boron and nickel~~ is doped with one of more of nitrogen or oxygen in a range of from 0.1 wt.% to 5 wt.%.

10. (Currently Amended) The method of claim 3, wherein the alloy ~~of boron and nickel~~ is doped with one of more of nitrogen or oxygen in a range of from about 0.1 wt.% to about 5 wt.%.

11. (Currently Amended) An extreme ultraviolet (EUV) mask blank comprising:

a substrate;

a multilayer stack which reflects EUV radiation, the multilayer stack comprising a plurality of reflective layer pairs;

a capping layer on the multilayer stack of reflecting layers; and

an absorber layer comprising an alloy selected from the group consisting of an alloy consisting essentially of boron and nickel and an alloy consisting essentially of boron, nickel, and one or more of a nitrogen dopant and an oxygen dopant, the absorber layer having a thickness less than 30nm while achieving less than 2% reflectivity.

12. (Currently Amended) The extreme ultraviolet (EUV) mask blank of claim 11, the alloy ~~of boron and nickel comprises~~ consisting essentially of about 2 wt.% to about 10.9 wt.% boron and about 89.1 wt.% to about 98 wt.% nickel.

13. (Currently Amended) The extreme ultraviolet (EUV) mask blank of claim 11, the alloy ~~of boron and nickel comprises~~ consisting essentially of about 3 wt.% to about 9.9 wt.% boron and about 90.1 wt.% to about 97 wt.% nickel.

14. (Currently Amended) The extreme ultraviolet (EUV) mask blank of claim 12, ~~wherein~~ the alloy ~~of boron and nickel comprises~~ consisting essentially of about 5 wt.% to about 7.9 wt.% boron and about 92.1 wt.% to about 95 wt.% nickel.

15. (Currently Amended) The extreme ultraviolet (EUV) mask blank of claim 13, wherein the alloy ~~of boron and nickel~~ is amorphous.

~~16. (Canceled) The extreme ultraviolet (EUV) mask blank of claim 11, wherein the absorber layer has a thickness of less than 45 nm~~.

~~17.~~ 16. (Currently Amended) The extreme ultraviolet (EUV) mask blank of claim 11, wherein the absorber layer ~~further comprises~~is doped with a range of from about 0.1 wt.% to about 5 wt.% of a dopant selected from one or more of nitrogen or oxygen.

~~18. (Canceled) The extreme ultraviolet (EUV) mask blank of claim 11, wherein the absorber layer has a thickness of less than 45 nm~~.

~~19.~~ 17. (Original) The extreme ultraviolet (EUV) mask blank of claim 11, wherein the absorber layer is etch selective relative to the capping layer.

~~20.~~ 18. (Currently Amended) An extreme ultraviolet (EUV) mask blank comprising:

a substrate;

a multilayer stack which reflects EUV radiation, the multilayer stack comprising a plurality of reflective layer pairs including molybdenum (Mo) and silicon (Si);

a capping layer on the multilayer stack of reflecting layers; and

an absorber layer comprising an alloy selected from the group consisting of an alloy consisting essentially of boron and nickel and an alloy consisting essentially of boron, nickel, and one or more of a nitrogen dopant and an oxygen dopant, the absorber layer having a thickness less than 30nm while achieving less than 2% reflectivity.