CLAIMS

1. A reflow oven of the type used to join electronic components to a substrate, the reflow oven comprising:

a chamber housing including surfaces that are in contact with heated air mixed with contaminants, including flux; and

a water-soluble layer selectively applied to the surfaces of the chamber housing.

2. The reflow oven of claim 1, wherein the water-soluble layer includes an acrylic-based layer.

3. The reflow oven of claim 2, wherein the acrylic-based layer includes an acrylic paint.

4. The reflow oven of claim 3, wherein the acrylic paint includes a water-soluble polymer, a polymer emulsion, and water.

5. The reflow oven of claim 4, wherein the water-soluble polymer includes butyl benzyl phthalate.

6. The reflow oven of claim 5, wherein the acrylic paint includes 1-10 % by weight butyl benzyl phthalate, 30-55 % by weight acrylic polymer emulsion, and balance water.

7. The reflow oven of claim 6, wherein the acrylic paint includes 1-5 % by weight butyl benzyl phthalate, 35-50 % by weight acrylic poly emulsion, and balance water.

8. A method of treating surfaces of a reflow oven exposed to contaminants, including flux, the method comprising:

selectively applying water-soluble layer on the surfaces of the reflow oven.

9. The method of claim 8, further comprising:

operating the reflow oven such that contaminants, including flux, repel from the water-soluble layer.

10. The method of claim 9, further comprising:

removing the water-soluble layer from the surfaces of the reflow oven.

11. The method of claim 9, wherein removing the water-soluble layer from the surfaces of the reflow oven includes peeling the water-soluble layer away from the surfaces of the reflow oven.

12. The method of claim 11, wherein peeling the water-soluble layer away from the surfaces of the reflow oven involves using a device.

13. The method of claim 12, wherein the device includes a putty knife.

14. The method of claim 10, further comprising, after removing the water-soluble layer, applying a new water-soluble layer on the surfaces of the reflow oven.

15. The method of claim 8, wherein selectively applying the water-soluble layer on the surfaces of the reflow oven includes brushing the water-soluble layer.

16. The method of claim 8, wherein the water-soluble layer includes an acrylic-based layer.

17. The method of claim 16, wherein the acrylic-based layer includes an acrylic paint.

18. The method of claim 17, wherein the acrylic paint includes a water-soluble polymer, a polymer emulsion, and water.

19. The method of claim 18, wherein the water-soluble polymer includes butyl benzyl phthalate.

20. The method of claim 17, wherein the acrylic paint includes 1-10 % by weight butyl benzyl phthalate, 30-55 % by weight acrylic polymer emulsion, and balance water.

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CLAIMS

1. A reflow oven used to join electronic components to a substrate, the reflow oven comprising:

a chamber housing including surfaces that are in contact with heated air mixed with contaminants, including flux; and

a layer selectively applied to the surfaces of the chamber housing, wherein the layer is an acrylic emulsion paint initially comprising by weight, 30-55 % of an acrylic polymer, 1-10 % butyl benzyl phthalate with the balance being made up of water.

2. The reflow oven of claim 1, wherein the paint initially included by weight 1-5 % butyl benzyl phthalate, 35-50 % acrylic polymer, with the balance being made up of water.

3. A method of treating surfaces of a reflow oven exposed to contaminants, including flux, the method comprising:

selectively applying an acrylic emulsion paint layer onto the surfaces of the reflow oven, comprising by weight, 1-10 % butyl benzyl phthalate, 30-55 % acrylic polymer, and the balance being made up of water.

4. The method of claim 3, further comprising:

operating the reflow oven such that contaminants, including flux, repel from the acrylic layer.

5. The method of claim 4, further comprising:

removing the layer from the surfaces of the reflow oven.

6. The method of claim 5, wherein the removal of the water-soluble layer from the surfaces of the reflow oven includes peeling the layer away from the surfaces of the reflow oven.

7. The method of claim 6, wherein peeling the layer away from the surfaces of the reflow oven involves using a device.

8. The method of claim 7, wherein the device includes a putty knife.

9. The method of claim 5, further comprising the step of applying a new acrylic emulsion paint layer onto the surfaces of the reflow oven after the removal of the old layer.

10. The method of claim 3, wherein the paint layer is applied by brush.