

Nemko USA, Inc., San Diego Division

11696 Sorrento Valley Road, Suite F, San Diego, CA 92121
Phone (858) 755-5525 Fax (858) 259-7170

12/21/2010 Testing for:

**NewMetro Design, LLC
141 NAC Drive, Duncansville, PA 16635**

The following tests were performed to determine if the “BeaterBlade KA-TH” attachment places more strain on the mixer motor than the manufacturer supplied KitchenAid Flex Edge Beater. Two recipes were used according to the tasks of their purpose.

Using standard recipes, Temperatures (measured in Celsius and converted to Fahrenheit) and Peak Input Power (Voltage, Current and Wattage) were monitored on a KitchenAid® 90th Anniversary mixer for comparison of NewMetro Design’s attachment “BeaterBlade KA-TH” versus KitchenAid Flex Edge attachment, each mixing recipes found in typical cookbooks.

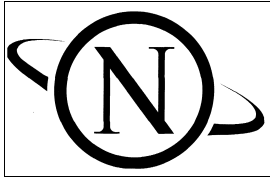


X *Jan Robert Blomgren*

Jan Robert Blomgren (Senior Engineer)

01/24/2011

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The “BeaterBlade” is made of Co-Polyester with TPE (Thermo Plastic Elastomer) plastic blades on the outer edge.

The “BeaterBlade” is a patented mixer/scrapper attachment designated for batter/dough ingredient. The KitchenAid Flex Edge Beater is one of the tools provided with the KitchenAid® Mixer

Both beaters were tested on two recipes, Banana Bread and Oatmeal Raisin Cookies. Both attachments were tested for the same duration of time.



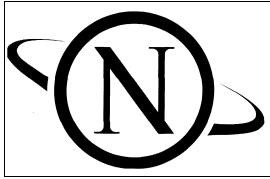
Test equipment used: Yokogawa Hybrid Recorder and Yokogawa Power Meter. Thermocouples were placed on the KitchenAid mixer. One on it's top enclosure and one internally on motor core also an extra thermocouple recorded ambient room temperatures. Voltage was regulated by hand through a variac to maintain 120V during test conditions (Test Equipment info on last page).

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Mixing Results are as follows;

KitchenAid Flex Edge Beater: Banana Bread

1st 40 seconds: Speed 2, add Butter; 120Volts, 1.54Amps, 122Watts

41 seconds to 1min 30 seconds: Speed 4, add Granulated sugar; 120V, 1.36A, 127W

1min 30 seconds to 2 min 5 seconds: Speed 4, add 2 eggs; 120V, 1.22A, 77W

2 min 5 seconds to 3 minutes: Speed 4, add Vanilla and milk; 120V, 1.35A, 118W

3 minutes to 4 minutes: Speed 4, add Banana, milk and vanilla; 120V, 1.31A, 111W (all ingredients to add completed)

Temperatures at Beginning of Test:

Ambient 71.4°F, Motor core 65.5°F, Enclosure top 66.2°F

Temperatures at End of Test:

Ambient 71.8°F, Motor core 84.6°F, Enclosure top 73.2°F

NewMetro Design BeaterBlade: Banana Bread

1st 40 seconds: Speed 2, add Butter; 120Volts, 1.33Amps, 84Watts

41 seconds to 1min 30 seconds: Speed 4, add Granulated sugar; 120V, 1.65A, 124W

1min 30 seconds to 2 min: Speed 4, add 2 eggs; 120V, 1.03A, 64W

2 minutes to 3 min 10 seconds: Speed 4, add Vanilla and milk; 120V, 1.15A, 80W

3 min 10 seconds to 4 minutes: Speed 4, add Banana; 120V, 1.45A, 105W

4 minutes to 4min 30 seconds: Speed 4, add dry powder; 120V, 1.66A, 128W (all ingredients to add completed)

Temperatures at Beginning of Test:

Ambient 72.3°F, Motor core 66.6°F, Enclosure top 66.6°F

Temperatures at End of Test:

Ambient 72.7°F, Motor core 84.4°F, Enclosure top 72.3°F

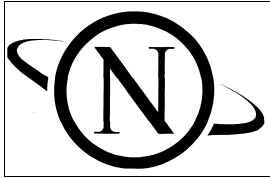
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KitchenAid Flex Edge Beater: Oatmeal raisin cookies

1st 40 seconds: Speed 4, add Butter; 120Volts, 1.24Amps, 101Watts

41 seconds to 1min 10 seconds: Speed 4, add Granulated sugar; 120V, 1.70A, 162W

1min 10 seconds to 1 min 50 seconds: Speed 4, add 2 eggs; 120V, 1.20A, 90W

1 min 50 seconds to 2 min 20 seconds: Speed 4, add flour, baking soda and salt;
120V, 1.62A, 147W

2 min 20 seconds to 3 min 15 seconds: Speed 2, add oatmeal; 120V, 1.93A, 161W (all ingredients to add completed)

3 min 40 seconds: Speed 3; 120V, 2.41A, 258W

3 min 45 seconds: Speed 3; 120V, 2.32A, 225W

Temperatures at Beginning of Test:

Ambient 72.9°F, Motor core 81.1°F, Enclosure top 74.8°F

Temperatures at End of Test:

Ambient 73.2°F, Motor core 89.2°F, Enclosure top 80.4°F

NewMetro Design BeaterBlade: Oatmeal raisin cookies

1st 40 seconds: Speed 4, add Butter; 120Volts, 1.34Amps, 85Watts

41 seconds to 1min 10 seconds: Speed 4, add Granulated sugar; 120V, 2.24A, 230W

1min 10 seconds to 1 min 50 seconds: Speed 4, add 2 eggs; 120V, 1.52A, 135W

1 min 50 seconds to 2 min 20 seconds: Speed 4, add flour, baking soda and salt;
120V, 2.02A, 148W

2 min 20 seconds to 3 min 10 seconds: Speed 2, add oatmeal; 120V, 2.30A, 160W (all ingredients to add completed)

3 min 40 seconds: Speed 4; 120V, 3.25A, 348W

4 minutes: Speed 4; 120V, 3.10A, 326W

Temperatures at Beginning of Test:

Ambient 73.4°F, Motor core 81.7°F, Enclosure top 74.5°F

Temperatures at End of Test:

Ambient 73.7°F, Motor core 94.3°F, Enclosure top 80.4°F

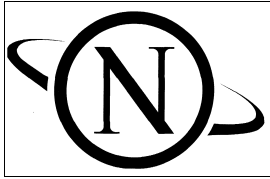
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Summary:

The BeaterBlade® KA-TH by NewMetro Design did not significantly exercise the KitchenAid® stand mixer more than the KitchenAid Flex Edge scraper. Based on the information gathered, proper use of the BeaterBlade does not shorten the life of the mixer motor and use of the BeaterBlade kept the motor core temperature within acceptable temperature ranges. Thus, when the BeaterBlade is used in accordance to its instructions there is no observable strain applied to the mixer motor and the BeaterBlade will not cause overheating or smoking of the mixer motor.

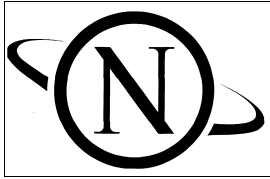


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Test Equipment and Recipes used:

Asset: N114, Yokogawa, DR130, Hybrid Recorder, Cal on 6/29/10, Due on 6/18/11

Asset: N017, Yokogawa, 2534, Digital Power Meter, Cal on 3/2/10, Due on 3/2/11

Asset: N194, Spalding, 88-082 V12, Stopwatch, Cal on 11/16/10, Due on 11/16/11

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