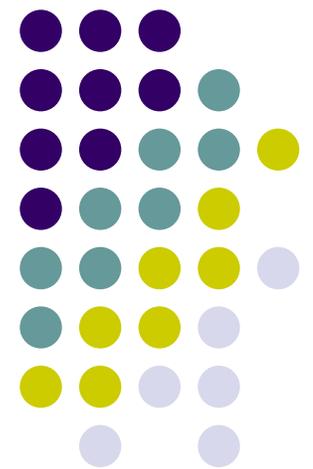

Project: Arepa burner

Experiment 01



GENERALITIES



- Temperature of the radiation source = 545 -604 °C
- Temperature of the contact source = upside 203°C, downside 210 °C.
- Current consumed by the contact source = 7,42 A – 7,20 A
- Current consumed by the radiation source = 7,6 A



MEASUREMENT INSTRUMENTS

- Current clip: Materman AC71: 600V , 600 A
- Digital Multimeter: Yu Fong YF 3503
- Infrared pistol: CHY 111
 - 30 – 550 °C
 - Accuracy +/- 2 %
- Thermocouple k : Hanna Instruments HI 9063
 - 50 – 950 °C

INSTRUMENTS



TYPES OF AREPAS





WHITE AREPA

- Diameter = 150 mm
- Thickness = 5 mm
- The arepa roasted by contact was very toasted, and tasted like snacks.
- The arepa roasted by radiation was like most people of Antioquia like it.

TIME (s)	RADIATION (°C)		CONTACT (°C)
	AREPA UPSIDE	AREPA DOWNSIDE	AREPA UPSIDE
0	14	14	14
30	25	52	103
60	49	138	101
90	64,5	147	105
120	74	152	102
150	81	160	112
180	82,5	164	117
210	92	175	120
240	94	131,5	127
270	97	174	130
300			143,5
330			160
360			170



YELLOW AREPA

- Diameter = 150 mm
- Thickness = 5 mm
- The arepa in the grill had to be turned twice because it was burning.
- The taste of the arepa made by contact was still weird

TIME (s)	RADIATION (°C)		CONTACT (°C)
	AREPA UPSIDE	AREPA DOWNSIDE	AREPA UPSIDE
0	15	15	15
30	19	92	96,5
60	38,5	137	101,5
90	56	154	111
120	65,5	137,5	115
150	93	154	112,5
180	85	163	118,5
210	100	155	117
240	102	185	127,5
270			115
300			112



MOTE AREPA

- Diameter = 150 mm
- Thickness = 5 mm
- The same conditions about taste.

TIME (s)	RADIATION (°C)		CONTACT (°C)
	AREPA UPSIDE	AREPA DOWNSIDE	AREPA UPSIDE
0	15	15	15
30	28,5	130	70
60	60	100	100
90	70	105	102
120	75	130	117
150	89	162	120
180	90	154,5	119,5
210	91,5	192,5	125



CHEESE AREPA

- Diameter = 110 mm
- Thickness = 10 mm
- This time the arepa made by contact had a good taste.

TIME (s)	RADIATION (°C)		CONTACT (°C)
	AREPA UPSIDE	AREPA DOWNSIDE	AREPA UPSIDE
0	16,5	16,5	16,5
30	17	124	54,5
60	24,5	117	91
90	34,5	142,5	104
120	70,5	114	113,5
150	66,5	161,5	115
180	69	146,5	115,5
210	72,5	172,5	121,5



CHOCOLO AREPA

- Diameter = 150 mm
- Thickness = 40 mm
- The taste of the arepa made by radiation was better like always.

TIME (s)	RADIATION (°C)		CONTACT (°C)
	AREPA UPSIDE	AREPA DOWNSIDE	AREPA UPSIDE
0	16,5	16,5	16,5
30	22,5	92,5	80,5
60	51	157,5	96,5
90	63	189,5	120
120	86	127	103,5
150	88,5	181,5	131
165	89	182	
180		122	
210		135	
240		125	