

# Brazilian Natural Process Coffee - 200g Batch Roasting Profile

## Profile Overview

**Bean Type:** Brazilian Natural/Pulped Natural Process **Batch Size:** 200g (33% larger than your current 150g batches) **Target Roast Level:** Medium to Full City (optimal for Brazilian naturals)  
**Target Drop Temperature:** 185-195°C BT **Total Time Target:** 10:00-11:30

## Why Brazilian Naturals Are Different

Natural process characteristics that affect roasting:

- Higher initial moisture content (requires longer drying)
- Fruit sugars on bean surface (caramelizes, requires careful heat)
- Denser structure (needs better heat penetration)
- More prone to scorching (surface sugars burn easily)
- Develops sweetness quickly (chocolate/caramel notes)

## Key Temperature Milestones

### Target Temperatures (Bean Temperature)

- **Charge:** 140-145°C (higher than your Guatemala charges)
- **Turning Point:** 110-115°C (at 90-120 seconds)
- **Dry End:** 155-160°C (at 4:30-5:00, longer than washed)
- **First Crack:** 170-175°C (at 8:00-8:30)
- **Drop:** 188-195°C (at 10:30-11:30)

### Environmental Temperature Targets

- **Charge:** 100-110°C
- **Dry End:** 125-135°C
- **First Crack:** 135-145°C
- **Drop:** 145-155°C

## Phase Timing & RoR Targets

### Phase 1: Drying (0-5:00, 43-45% of total time)

Extended drying for natural process

- **0-2:00:** 9-11°C/min (initial momentum)
- **2:00-4:00:** 7-9°C/min (controlled decline)
- **4:00-5:00:** 6-7°C/min (final drying push)

**Why longer:** Natural process beans retain more moisture in the fruit layer, requiring extended drying to avoid uneven roasting later.

## **Phase 2: Maillard (5:00-8:15, 28-32% of total time)**

**Careful heat management for sugar development**

- **5:00-6:30:** 6-7°C/min (early Maillard)
- **6:30-8:15:** 5-6°C/min (late Maillard, approaching FC)

**Why careful:** Surface sugars from natural process caramelize quickly and can scorch if heat is too aggressive.

## **Phase 3: Development (8:15-11:00, 24-27% of total time)**

**Balanced development for sweetness**

- **8:15-9:30:** 4-5°C/min (post-first crack)
- **9:30-11:00:** 3-4°C/min (final development)

**Why balanced:** Brazilian naturals develop chocolate/caramel sweetness readily, but need time to balance body with acidity.

## **Batch Size Adjustment: 200g vs 150g**

### **Critical Differences from Your 150g Roasts**

#### **1. Thermal Mass**

- 33% more beans = more heat capacity
- Slower temperature changes
- Requires 10-15% more initial heat

#### **2. Heat Penetration**

- Larger batch needs better heat distribution
- Slightly longer total time recommended
- More attention to even development

#### **3. Turning Point**

- May take 15-30 seconds longer to reach TP
- Temperature drop at charge will be less dramatic
- Requires slightly higher charge temperature

## **Heat Management Strategy**

### **Pre-Charge Setup**

- Preheat to 220-240°C environmental temperature
- Set initial burner to 65-75% (higher than 150g batches)
- Ensure good drum speed/airflow for larger batch

### **Phase 1: Drying (0-5:00)**

#### **0-1:00 (Charge to Turnaround)**

- Burner: Start 65-75%, reduce to 55-65%
- Goal: Achieve turning point at 90-120 seconds
- Note: Larger batch = slower response time

#### **1:00-3:00 (Early Drying)**

- Burner: Reduce to 45-55%
- Goal: 8-10°C/min RoR
- Watch: Moisture release, steam production

#### **3:00-5:00 (Late Drying)**

- Burner: Gradual reduction to 40-50%
- Goal: 6-7°C/min RoR
- Critical: Extended drying for natural process

### **Phase 2: Maillard (5:00-8:15)**

#### **5:00-6:30 (Early Maillard)**

- Burner: Maintain 38-48%
- Goal: 6-7°C/min RoR
- Watch: Surface sugars beginning to caramelize
- Key: Avoid scorching from too much heat

#### **6:30-8:00 (Late Maillard)**

- Burner: Reduce to 32-42%
- Goal: 5-6°C/min RoR
- Strategy: Plan heat reduction at 7:45

#### **8:00-8:15 (Pre-First Crack)**

- Burner: Final reduction to 28-38%
- Goal: 5°C/min RoR entering FC
- Listen: Bean expansion sounds

### **Phase 3: Development (8:15-11:00)**

#### **8:15-9:00 (First Crack)**

- Burner: Reduce to 25-35%
- Goal: Control crack intensity
- Watch: Even crack throughout batch

#### **9:00-10:00 (Early Development)**

- Burner: Maintain 25-32%
- Goal: 4-5°C/min RoR
- Develop: Chocolate/caramel notes

#### **10:00-11:00 (Final Development)**

- Burner: Reduce to 20-28%
- Goal: 3-4°C/min RoR
- Target: Balance sweetness and body

### **Sample Timeline - Brazilian Natural 200g**

Time	BT Temp	ET Temp	RoR	Heat %	Note
0:00	143°C	105°C	-	70%	Charge 200g
0:30	133°C	98°C	-	60%	Dropping
1:30	115°C	95°C	10°C/min	55%	Turning point
2:30	125°C	102°C	9°C/min	50%	Early drying
3:30	135°C	110°C	8°C/min	45%	Mid drying
5:00	158°C	127°C	7°C/min	40%	Dry end (extended)
6:30	167°C	135°C	6°C/min	36%	Mid Maillard
7:45	172°C	140°C	5°C/min	32%	Pre-FC heat cut
8:15	174°C	142°C	5°C/min	28%	First crack starts
9:00	180°C	147°C	5°C/min	28%	Peak FC
10:00	187°C	151°C	4°C/min	25%	Development
11:00	192°C	154°C	3°C/min	22%	Drop (Full City)

## Brazilian Natural Specific Challenges

### 1. Scorching Risk

**Problem:** Surface sugars burn easily **Prevention:**

- Avoid RoR above 7°C/min in Maillard phase
- Reduce heat aggressively if beans darken too quickly
- Monitor bean surface color carefully

### 2. Uneven Development

**Problem:** Outside develops faster than inside **Prevention:**

- Extended drying phase (5:00 minimum)
- Proper heat soak in early phases
- Avoid rushing through Maillard

### 3. Grassy/Hay Notes

**Problem:** Underdeveloped due to high moisture **Prevention:**

- Ensure full drying phase completion
- Don't drop before 188°C for naturals
- Maintain minimum 2:30 development time

### 4. Over-fermented Funk

**Problem:** Natural process can have fermented notes **Solution:**

- These notes mellow at 190°C+
- Slightly darker roast (190-195°C) often improves cup
- Good development time integrates funky notes

**Expected Cup Profile by Drop Temperature**

**Medium (188-192°C)**

- **Body:** Full, syrupy
- **Acidity:** Low-medium, soft
- **Sweetness:** Milk chocolate, brown sugar
- **Flavors:** Chocolate, nuts, caramel, berry hints
- **Balance:** Sweet and smooth

**Full City (192-195°C)**

- **Body:** Very full, creamy
- **Acidity:** Low, round
- **Sweetness:** Dark chocolate, molasses
- **Flavors:** Dark chocolate, roasted nuts, caramel
- **Balance:** Body-forward, very sweet

**Comparison to Your Guatemala Profile (R18)**

Aspect	Guatemala 150g	Brazilian Natural 200g
Charge Temp	131°C	143°C (+12°C)
Batch Size	150g	200g (+33%)
Drying Time	4:20 (40%)	5:00 (45%)
Total Time	10:56	11:00 (target)
Drop Temp	181°C	192°C (+11°C)
Development	2:40	2:45 (similar)
Key Challenge	Brightness	Scorching/Evenness

**Heat Setting Adjustments from Your Current Approach**

Based on your R18 roast, adjust for 200g batch:

**Charge Heat:** +10-15% from your current 150g setting **Early Phase:** +10% (more thermal mass to heat) **Mid Phase:** Similar percentage, but watch for scorching **Development:** -5% (larger batch holds heat longer)

## Tips for Success

1. **Preheat longer:** Extra thermal mass needs more preheat
2. **Watch color changes:** Naturals darken quickly
3. **Extended drying:** Don't rush - full 5:00 minimum
4. **Listen carefully:** Crack sounds may be less distinct in larger batch
5. **Smell for scorch:** Burnt sugar smell = reduce heat immediately
6. **Cool quickly:** 200g takes longer to cool, start cooling ASAP

## Why This Profile Works for Brazilian Naturals

**Extended drying:** Handles higher moisture content **Controlled Maillard:** Prevents sugar scorching **Higher drop temp:** Develops chocolate notes, mellows ferment **Balanced development:** Creates signature Brazilian sweetness

This profile plays to Brazilian natural strengths (body, chocolate, sweetness) while managing their challenges (moisture, scorching risk, potential funk).