

Cascade Pale Ale - All Grain Kit - Robobrew V3 35L

Beer Stats

Efficiency:	72% <i>(brew house)</i>				
Method:	All Grain				
Pre Boil Gravity:	1.047 <i>(recipe based estimate)</i>				
Boil Time:	60 min				
Style:	American Pale Ale				
Post Boil Gravity:	1.054 <i>(recipe based estimate)</i>				
Batch Size:	23 liters <i>(fermentor volume)</i>				
Original Gravity:	1.054	Final Gravity:	1.010	ABV (standard):	5.8%
Gravity:		IBU (tinseth):	33.3	SRM (morey):	6.7
Mash pH	5.7	Cost	n/a		



Setup

- Double check that all ingredients are on hand.
- Ensure all equipment is on hand (hydrometer, sanitizer, fuel, fermentor, kettle, air lock, hops bags, hoses, funnel, towel, etc).
- Make sure valve is closed on brew kettle.
- This recipe calls for 32 L of water given the recipe and your equipment profile.
- Fill kettle and begin heating strike water.
- Add brewing salts as recipe calls for or to style.
- Weigh out and mill grains if not already milled.
- Clean workspace.
- Prepare hops additions.
- Take yeast out of fridge if using liquid ale yeast.

Mash

- When strike water is ready, submerge grain bag and begin mash.
- Place lid on kettle and ensure temperature is maintained.
- Mash Step 1 (Strike) Heat 23.99 L to 68 °C, and Mash at 67 °C for 60 min.
- Mash Step 2 (Sparge) Sparge with 7.98 L at 76 °C for 15 min.
- Mash complete, remove grain bag from kettle.

Boil

- Expected pre-boil volume of 27.1 L needed to hit batch size target.
- Collect pre-boil gravity sample (Expected 1.047). Record the value when it has cooled down.
- Fire the kettle and bring to a boil. Stir well as hot break occurs to avoid boil over.
- Start boil timer, set for 60 minutes.
- Add 1 oz of Cascade at 60 min.
- Add 0.5 oz of Cascade at 30 min.
- Add 0.5 each of Whirlfloc at 15 min.
- Begin sanitizing counterflow chiller and hoses at 10 min.

- Begin sanitizing lid of kettle at 10 min.
- Add 0.5 oz of Cascade at 5 min.
- Boil complete. Flame out.

Finish

- Cool wort down to ~64 °F / 18 °C.
- Sanitize primary fermenter, cork, air lock, aeration stone/hose, funnel, wine thief.
- When wort is cooled to ~64 °F / 18 °C, transfer wort into fermenter.
- Aerate wort by shaking, rocking, splashing, or with aeration stone.
- Take gravity reading (Expected 1.054).
- Pitch yeast.
- Fit with airlock or blow off tube for high gravity or dark beers.
- Move fermenter to temperature stable area protected from light.
- Clean up equipment.