

## #47 American Black Ale

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- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **32**
- SRM **19.6**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **3 %**
- Size with trub loss **20.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.2 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.6 liter(s)**

### Steps

- Temp **66 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **10.2 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **50 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **23.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.5 kg (73.5%)	80 %	5
Grain	Carared	0.1 kg (2.9%)	75 %	39
Grain	Carafa	0.4 kg (11.8%)	70 %	664
Grain	Rye, Flaked	0.4 kg (11.8%)	78.3 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	50 g	10 min	13 %
Boil	Chinook	50 g	0 min	13 %
Boil	Simcoe	50 g	0 min	13.2 %
Dry Hop	Simcoe	50 g	5 day(s)	13.2 %
Dry Hop	Waimea	100 g	5 day(s)	17 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - American Ale II	Ale	Liquid	125 ml	Wyeast Labs