

Ronin

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **43**
- SRM **48**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **22.9 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **22.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3 kg (50%)	80 %	7
Grain	Simpsons - Roasted Barley	0.5 kg (8.3%)	70 %	1084
Grain	Rice, Flaked	0.5 kg (8.3%)	70 %	2
Grain	Chocolate Malt (UK)	0.5 kg (8.3%)	73 %	887
Grain	Munich Malt	1.5 kg (25%)	80 %	18

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	35 g	60 min	8.4 %
Aroma (end of boil)	perle	45 g	10 min	8.4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Spice	Tonka Beans	10 g	Boil	15 min