

# 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 |