

Rye ALE

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **72**
- SRM **3.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.7 liter(s)**
- Total mash volume **26.6 liter(s)**

Steps

- Temp **62 C**, Time **60 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **20.7 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **15 min** at **78C**
- Sparge using **10.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	4.7 kg (79.7%)	80.5 %	2
Grain	Briess - Rye Malt	1.2 kg (20.3%)	81 %	7

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Galaxy	25 g	60 min	15 %
Aroma (end of boil)	Galaxy	15 g	15 min	15 %
Aroma (end of boil)	Cascade	25 g	15 min	6 %
Whirlpool	Galaxy	10 g	30 min	15 %
Whirlpool	Cascade	25 g	30 min	6 %

Yeasts

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