

PA

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **35**
- SRM **15.3**

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 liter(s) / kg**
- Mash size **13.2 liter(s)**
- Total mash volume **17.6 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **13.2 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Acidulated Malt	4 kg (90.9%)	80 %	6
Grain	Caraaroma	0.3 kg (6.8%)	78 %	400
Grain	Weyermann - Carafa I	0.1 kg (2.3%)	70 %	690

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pioneer	20 g	55 min	8.8 %
Boil	Pioneer	10 g	15 min	8.8 %
Boil	Citra	5 g	15 min	12 %
Boil	Willamette	30 g	5 min	5 %
Boil	Citra	10 g	5 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Fermentis