

BA Bitter

- Gravity **9.5 BLG**
- ABV **3.7 %**
- IBU **32**
- SRM **8.5**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.8 liter(s)**
- Total mash volume **14.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **10.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **76C**
- Sparge using **18.3 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.2 kg (88.9%)	85 %	7
Grain	Munich Malt	0.25 kg (6.9%)	80 %	18
Grain	Caraaroma	0.15 kg (4.2%)	78 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Willamette	20 g	60 min	5 %
Boil	Warrior	10 g	15 min	15.5 %
Boil	Willamette	10 g	15 min	5 %
Aroma (end of boil)	Warrior	20 g	5 min	15.5 %

Yeasts

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