

Apa

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **44**
- SRM **6.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4.2 kg (80%)	85 %	7
Grain	Weyermann - Pale Wheat Malt	0.5 kg (9.5%)	85 %	5
Grain	Vienna Malt	0.3 kg (5.7%)	78 %	8
Grain	Caramunich® typ I	0.25 kg (4.8%)	73 %	80

Hops

Use for	Name	Amount	Time	Alpha acid
Mash	Amarillo	50 g	75 min	8.9 %
Boil	Equinox	10 g	60 min	16.1 %
Boil	Galaxy	5 g	60 min	13.3 %
Boil	Equinox	5 g	20 min	16.1 %
Boil	Galaxy	5 g	20 min	13.3 %
Aroma (end of boil)	Equinox	15 g	5 min	16.1 %
Aroma (end of boil)	Galaxy	20 g	5 min	13.3 %
Dry Hop	Galaxy	30 g	4 day(s)	13.3 %
Dry Hop	Equinox	30 g	4 day(s)	16.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.1 g	---