

Apollo 11

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **58**
- SRM **6**
- Style **American IPA**

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 **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **21 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5.3 kg (88.3%)	85 %	7
Grain	Weyermann - Carapils	0.2 kg (3.3%)	78 %	4
Grain	Munich Malt	0.5 kg (8.3%)	80 %	18

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	30 g	60 min	9.5 %
Aroma (end of boil)	Cascade	10 g	30 min	6 %
Aroma (end of boil)	Amarillo	10 g	30 min	9.5 %
Aroma (end of boil)	Amarillo	30 g	10 min	9.5 %
Aroma (end of boil)	Cascade	30 g	10 min	6 %
Whirlpool	Cascade	10 g	0 min	6 %
Whirlpool	Citra	50 g	0 min	12 %

Yeasts

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