

Full Aroma Hops

- Gravity **12 BLG**
- ABV ---
- IBU **49**
- SRM **3.8**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **90 min**
- Evaporation rate **20 %/h**
- Boil size **31.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14.8 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **40 C**, Time **0 min**
- Temp **61 C**, Time **10 min**
- Temp **71 C**, Time **45 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **14.8 liter(s)** of strike water to **42.9C**
- Add grains
- Keep mash **0 min** at **40C**
- Keep mash **10 min** at **61C**
- Keep mash **45 min** at **71C**
- Keep mash **10 min** at **75C**
- Sparge using **20.6 liter(s)** of **76C** water or to achieve **31.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.22 kg (100%)	81 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	24 g	60 min	13.5 %
Boil	Lublin (Lubelski)	36 g	15 min	4 %
Boil	Lublin (Lubelski)	24 g	5 min	4 %

Yeasts

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

Notes

- Oryginalny przepis:
http://www.wiki.piwo.org/Full_Aroma_Hops_,_Carlberg#Dro.C5.BCd.C5.BCe
Mar 10, 2016, 9:03 PM