

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
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