

WAPA

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **38**
- SRM **3.6**
- Style **American Pale Ale**

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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **15 min** at **72C**
- Sparge using **17.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|------------|-------|-----|
| Grain | Weyermann - Pilsner Malt | 3 kg (75%) | 81 % | 5 |
| Grain | Weyermann pszeniczny jasny | 1 kg (25%) | 80 % | 6 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Chinook | 10 g | 60 min | 13 % |
| Aroma (end of boil) | Citra | 10 g | 20 min | 12 % |
| Aroma (end of boil) | Cascade | 10 g | 20 min | 6 % |
| Aroma (end of boil) | Chinook | 10 g | 20 min | 13 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|--------|---------|------------|
| Brett | Ale | Liquid | 1000 ml | own |