

futer Session APA single hop

- Gravity **8.3 BLG**
- ABV **3.2 %**
- IBU **31**
- SRM **4.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.9 liter(s)**
- Total mash volume **15.3 liter(s)**

Steps

- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **11.9 liter(s)** of strike water to **79.4C**
- Add grains
- Keep mash **60 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.1 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.8 kg (82.4%) | 80 % | 5 |
| Grain | Płatki owsiane | 0.3 kg (8.8%) | 85 % | 3 |
| Grain | Strzegom Pszeniczny | 0.15 kg (4.4%) | 81 % | 6 |
| Grain | Słód Caramunich Typ II Weyermann | 0.15 kg (4.4%) | 73 % | 120 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------|--------|----------|------------|
| Boil | Amarillo | 25 g | 50 min | 9.5 % |
| Aroma (end of boil) | Amarillo | 5 g | 15 min | 9.5 % |
| Aroma (end of boil) | Amarillo | 5 g | 10 min | 9.5 % |
| Aroma (end of boil) | Amarillo | 5 g | 5 min | 9.5 % |
| Dry Hop | Amarillo | 10 g | 8 day(s) | 9.5 % |
| Dry Hop | Amarillo | 10 g | 6 day(s) | 9.5 % |
| Dry Hop | Amarillo | 10 g | 4 day(s) | 9.5 % |

Yeasts

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