

American Pale Ale single hop

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **40**
- SRM **7.1**
- 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 **90 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.7 liter(s)**
- Total mash volume **22.7 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **17.7 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|-----------------|-------|-----|
| Grain | Pilzneński | 4.65 kg (92.1%) | 81 % | 4 |
| Grain | Słód Caramunich Typ II Weyermann | 0.4 kg (7.9%) | 73 % | 120 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Cascade | 10 g | 90 min | 6.9 % |
| Boil | Cascade | 15 g | 60 min | 6.9 % |
| Boil | Cascade | 40 g | 30 min | 6.9 % |
| Aroma (end of boil) | Cascade | 85 g | 0 min | 6.9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|--------|--------|------------------|
| FM52 Amerykański Sen | Ale | Liquid | 150 ml | Fermentum Mobile |