

PALE ALE NUMER DWA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **38**
- SRM **18.1**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **25.5 liter(s)**

Steps

- Temp **65 C**, Time **50 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **20.4 liter(s)** of strike water to **70.6C**
- Add grains
- Keep mash **50 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **11.1 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.5 kg (49%) | 80 % | 5 |
| Grain | Karmelowy Jasny 30EBC | 0.5 kg (9.8%) | 75 % | 30 |
| Grain | Carahell | 0.5 kg (9.8%) | 77 % | 26 |
| Grain | Fawcett - Crystal Red | 0.4 kg (7.8%) | 71 % | 400 |
| Grain | Caraaroma | 0.2 kg (3.9%) | 78 % | 400 |
| Grain | Strzegom Pilzneński | 1 kg (19.6%) | 80 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------|--------|----------|------------|
| Boil | Marynka | 30 g | 60 min | 10 % |
| Aroma (end of boil) | Tettnang | 30 g | 15 min | 4 % |
| Dry Hop | Hallertau | 30 g | 7 day(s) | 4.5 % |

Yeasts

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

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | mech irlandzki | 5 g | Boil | 15 min |