

WPA

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **43**
- SRM **5.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **5 %**
- Size with trub loss **14.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **17.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.2 liter(s) / kg**
- Mash size **6.8 liter(s)**
- Total mash volume **9.9 liter(s)**

Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **6.8 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **17.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 2 kg (64.5%) | 85 % | 7 |
| Grain | Pszeniczny | 0.5 kg (16.1%) | 85 % | 4 |
| Grain | Monachijski | 0.5 kg (16.1%) | 80 % | 16 |
| Grain | Abbey Malt Weyermann | 0.1 kg (3.2%) | 75 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------|--------|--------|------------|
| Boil | Chinook | 10 g | 55 min | 12.8 % |
| Aroma (end of boil) | Cascade | 10 g | 15 min | 6.7 % |
| Aroma (end of boil) | Simcoe | 10 g | 15 min | 13.3 % |
| Aroma (end of boil) | Palisade | 10 g | 15 min | 8.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale | Dry | 11.5 g | Fermentis |

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

| Type | Name | Amount | Use for | Time |
|-------|--------|--------|-----------|------------|
| Other | Bretty | 500 g | Secondary | 120 day(s) |