

## 4 chmiele Pale Ale

- Gravity **10 BLG**
- ABV **4 %**
- IBU **44**
- SRM **4.2**
- 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 **27.7 liter(s)**

### Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **20.3 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

### Fermentables

| Type  | Name                          | Amount        | Yield | EBC |
|-------|-------------------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt          | 3 kg (66.7%)  | 80 %  | 5   |
| Grain | Viking Wheat Malt             | 0.3 kg (6.7%) | 83 %  | 5   |
| Grain | Strzegom Bursztynowy          | 0.2 kg (4.4%) | 70 %  | 49  |
| Grain | Colorado Pale Malt (2 Row) US | 1 kg (22.2%)  | 79 %  | 4   |

### Hops

| Use for             | Name     | Amount | Time     | Alpha acid |
|---------------------|----------|--------|----------|------------|
| Boil                | lunga    | 30 g   | 60 min   | 12.5 %     |
| Aroma (end of boil) | Sybilla  | 30 g   | 5 min    | 3.5 %      |
| Aroma (end of boil) | Puławski | 30 g   | 0 min    | 6 %        |
| Aroma (end of boil) | Oktawia  | 30 g   | 0 min    | 7.1 %      |
| Dry Hop             | Sybilla  | 20 g   | 6 day(s) | 3.5 %      |
| Dry Hop             | Oktawia  | 20 g   | 6 day(s) | 7.1 %      |
| Dry Hop             | lunga    | 20 g   | 3 day(s) | 12.5 %     |
| Dry Hop             | Puławski | 20 g   | 3 day(s) | 6 %        |

### Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 500 ml | Fermentis  |

## Notes

- Warka 18. Gęstwa po East Kent PA, warzone 22.09. Gęstość początkowa 10 BLG, przy przelewaniu na cichą 1 BLG.  
*Sep 18, 2017, 11:37 AM*