

Warka nr 9

- Gravity **13.6 BLG**
- ABV ---
- IBU **41**
- SRM **4.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **40 C**, Time **0 min**
- Temp **62 C**, Time **10 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **43.3C**
- Add grains
- Keep mash **0 min** at **40C**
- Keep mash **10 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|------------|-------|-----|
| Grain | Strzegom Pilzneński | 3 kg (60%) | 90 % | 4 |
| Grain | Viking Pale Ale malt | 2 kg (40%) | 85 % | 6 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnat | 22 g | 60 min | 11.2 % |
| Boil | Lublin (Lubelski) | 40 g | 45 min | 3.5 % |
| Boil | Lublin (Lubelski) | 13 g | 5 min | 3.5 % |

Yeasts

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