

Willamette Red

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **36**
- SRM **9.8**
- Style **American Amber Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **64 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.1 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.1 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|-----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 4 kg (79.6%) | 85 % | 7 |
| Grain | Monachijski | 0.5 kg (10%) | 80 % | 16 |
| Grain | Strzegom Karmel 150 | 0.25 kg (5%) | 75 % | 150 |
| Grain | Czekoladowy | 0.025 kg (0.5%) | 60 % | 788 |
| Grain | Briess - Victory Malt | 0.25 kg (5%) | 75 % | 55 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Marynka | 20 g | 60 min | 10 % |
| Boil | Willamette | 25 g | 20 min | 5 % |
| Boil | Willamette | 35 g | 5 min | 5 % |

Yeasts

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