

Wędzona dwunastka

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **62**
- SRM **4.4**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **22.2 liter(s)**

Steps

- Temp **64 C**, Time **60 min**
- Temp **68 C**, Time **10 min**
- Temp **73 C**, Time **10 min**

Mash step by step

- Heat up **16.6 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **68C**
- Keep mash **10 min** at **73C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Steinbach Karamel Pils | 5 kg (90.1%) | 79 % | 6 |
| Grain | cara clair | 0.55 kg (9.9%) | 80 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 60 min | 15.5 % |
| Boil | Columbus/Tomahawk/Zeus | 30 g | 10 min | 15.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|-------|-------|--------|------------|
| 34/70 | Lager | Slant | 200 ml | fermentis |