

Smrek

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **24**
- SRM **4.9**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **68 C**, Time **25 min**
- Temp **72 C**, Time **15 min**
- Temp **80 C**, Time **15 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **25 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **15 min** at **80C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **26.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------|--------------|-------|-----|
| Grain | Pale Malt (2 Row) Bel | 2.5 kg (50%) | 80 % | 6 |
| Grain | Pilznieński | 2 kg (40%) | 81 % | 4 |
| Grain | Carahell | 0.5 kg (10%) | 77 % | 26 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 15 g | 60 min | 7.4 % |
| Boil | Chinook | 8.5 g | 60 min | 13 % |

Yeasts

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

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------|--------|---------|--------|
| Spice | świerk | 150 g | Boil | 30 min |
| Spice | świerk | 70 g | Boil | 1 min |