

Robust Porter z malinami

- Gravity **19.3 BLG**
- ABV **8.4 %**
- IBU **37**
- SRM **41.5**

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 **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **25.5 liter(s)**
- Total mash volume **34 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **45 min**

Mash step by step

- Heat up **25.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **45 min** at **72C**
- Sparge using **9.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|---------------|-------|------|
| Grain | Viking Pale Ale malt | 4 kg (47.1%) | 80 % | 5 |
| Grain | Strzegom Monachijski typ I | 2 kg (23.5%) | 79 % | 16 |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.5 kg (5.9%) | 73 % | 1200 |
| Grain | Karmelowy Jasny 30EBC | 0.5 kg (5.9%) | 75 % | 30 |
| Grain | Brown Malt (British Chocolate) | 0.5 kg (5.9%) | 70 % | 128 |
| Grain | Caramel/Crystal Malt - 120L | 1 kg (11.8%) | 72 % | 236 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------|--------|--------|------------|
| Boil | Cluster | 40 g | 60 min | 7.75 % |
| Boil | Willamette | 20 g | 15 min | 5 % |
| Boil | Cluster | 10 g | 10 min | 7.75 % |
| Whirlpool | Willamette | 30 g | 60 min | 5 % |