

Challenge accepted

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **21**
- SRM **23.2**
- Style **Dry Stout**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 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 **67 C**, Time **60 min**
- Temp **70 C**, Time **10 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **16.6 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **70C**
- Keep mash **10 min** at **77C**
- Sparge using **20.6 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|---------|--|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 3.5 kg (57.9%) | 80 % | 5 |
| Grain | Monachijski typ II 20-25 EBC Weyermann | 1 kg (16.6%) | 80 % | 20 |
| Grain | Weyermann - Smoked Malt | 0.54 kg (8.9%) | 81 % | 6 |
| Adjunct | Briess - Barley Flakes | 0.5 kg (8.3%) | 70 % | 3 |
| Grain | Weyermann - Chocolate Wheat | 0.2 kg (3.3%) | 74 % | 788 |
| Grain | Jęczmień palony | 0.3 kg (5%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Challenger | 25 g | 60 min | 7 % |
| Boil | Challenger | 25 g | 10 min | 7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|-------------------------|-----|--------|--------|-------------|
| Wyeast - London Ale III | Ale | Liquid | 200 ml | Wyeast Labs |
|-------------------------|-----|--------|--------|-------------|