

porter

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **29**
- SRM **24**
- Style **Robust Porter**

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 **85 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **52 C**, Time **5 min**
- Temp **63 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **12.9 liter(s)** of strike water to **58.4C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **50 min** at **63C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **18.7 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 4 kg (77.7%) | 85 % | 7 |
| Grain | Fawcett - Pale Chocolate | 0.25 kg (4.9%) | 71 % | 600 |
| Grain | Monachijski | 0.4 kg (7.8%) | 80 % | 16 |
| Grain | Briess - Chocolate Malt | 0.25 kg (4.9%) | 60 % | 690 |
| Grain | Weyermann Specjal W | 0.25 kg (4.9%) | 68 % | 300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | Warrior | 15 g | 60 min | 15.5 % |
| Boil | East Kent Goldings | 20 g | 10 min | 5.1 % |
| Boil | East Kent Goldings | 20 g | 5 min | 5.1 % |

Yeasts

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

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|------------------------------|-----|-------|--------|------------------|
| FM13 Irlandzkie Ciemności | Ale | Slant | 200 ml | Fermentum Mobile |
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