

Czorne

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **37**
- SRM **45.7**
- 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 **5 %/h**
- Boil size **30.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.8 liter(s)**
- Total mash volume **25 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **15 min**

Mash step by step

- Heat up **18.8 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **76C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **30.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------------|--------------|-------|------|
| Grain | Weyermann - Pale Ale Malt | 5 kg (80%) | 85 % | 7 |
| Grain | Jęczmień palony | 0.5 kg (8%) | 55 % | 1150 |
| Grain | Weyermann - Carafa III special | 0.25 kg (4%) | 70 % | 1024 |
| Grain | Weyermann - Chocolate Wheat | 0.5 kg (8%) | 70 % | 950 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | East Kent Goldings | 100 g | 35 min | 5.1 % |

Yeasts

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