

# Czarnobrody

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- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **41**
- SRM **26**
- Style **Doppelbock**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **26.1 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **27.2 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **20.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **12.5 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

## Fermentables

| Type  | Name                          | Amount        | Yield | EBC |
|-------|-------------------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt          | 3 kg (44.1%)  | 80 %  | 5   |
| Grain | Strzegom Wiedeński            | 1 kg (14.7%)  | 79 %  | 10  |
| Grain | Strzegom Monachijski typ I    | 1 kg (14.7%)  | 79 %  | 16  |
| Grain | Viking Malt Wędzony Czereśnią | 1 kg (14.7%)  | 82 %  | 10  |
| Grain | Simpsons - Crystal Medium     | 0.3 kg (4.4%) | 74 %  | 108 |
| Grain | Fawcett - Pale Chocolate      | 0.2 kg (2.9%) | 71 %  | 600 |
| Grain | Carafa II                     | 0.2 kg (2.9%) | 70 %  | 812 |
| Grain | Jęczmień palony               | 0.1 kg (1.5%) | 55 %  | 985 |

## Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Marynka               | 30 g   | 60 min | 10 %       |
| Boil    | Saaz (Czech Republic) | 30 g   | 30 min | 4.5 %      |

|      |                       |      |        |       |
|------|-----------------------|------|--------|-------|
| Boil | Saaz (Czech Republic) | 30 g | 10 min | 4.5 % |
|------|-----------------------|------|--------|-------|

## Yeasts

| Name                   | Type  | Form   | Amount | Laboratory       |
|------------------------|-------|--------|--------|------------------|
| FM30 Bohemska rapsodia | Lager | Liquid | 200 ml | Fermentum Mobile |