

## Czarno to widzę

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **29**
- SRM **73.2**
- Style **Dry Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

### Steps

- Temp **66 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **14.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **50 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Czekoladowy ciemny	1.6 kg (33.3%)	68 %	1200
Grain	Viking Pale Ale malt	2 kg (41.7%)	80 %	5
Grain	Pszeniczny	0.5 kg (10.4%)	85 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (10.4%)	79 %	16
Grain	Jęczmień palony	0.2 kg (4.2%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Boil	Marynka	10 g	10 min	10 %
Boil	Marynka	10 g	5 min	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale