

Hops in black

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **31**
- SRM **32.5**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.6 liter(s) / kg**
- Mash size **11.7 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **11.7 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **26.5 liter(s)** of **76C** water or to achieve **33.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Liquid Extract	Ekstrakt słodowy Pale Ale, Bruntal	1.7 kg (27.4%)	80 %	35
Grain	Czekoladowy ciemny, Castle Malting	0.5 kg (8.1%)	68 %	1500
Grain	Płatki owsiane	1 kg (16.1%)	85 %	3
Grain	Pale Ale, Castle Malting	3 kg (48.4%)	80 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	28.3 g	50 min	11.6 %
Aroma (end of boil)	Centennial	28.3 g	5 min	10.2 %
Dry Hop	Cascade	28.3 g	3 day(s)	8.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Gervin GV12 Ale	Ale	Slant	500 ml	---