

angielskie gorzkie

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **34**
- SRM **11.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

Mash information

- Mash efficiency **95 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **67 C**, Time **80 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **80 min** at **67C**
- Sparge using **22.1 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (90.9%)	80 %	4
Grain	Strzegom Karmel 300	0.5 kg (9.1%)	70 %	299

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	50 g	50 min	7.4 %
Boil	Hallertau	10 g	15 min	5 %
Boil	Hallertau	10 g	10 min	5 %
Aroma (end of boil)	Hallertau	10 g	5 min	5 %
Whirlpool	Hallertau	20 g	---	5 %

Yeasts

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