

Gorzkie Żale

- Gravity **15.4 BLG**
- ABV ---
- IBU **70**
- SRM **11.8**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **76C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (83.3%)	80 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (8.3%)	79 %	16
Grain	Cara Gold Castlemalting	0.5 kg (8.3%)	78 %	120

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	30 g	60 min	13 %
Boil	Simcoe	20 g	15 min	13.2 %
Boil	Mosaic	20 g	10 min	10 %
Boil	Amarillo	10 g	10 min	9.5 %
Boil	Simcoe	10 g	5 min	13.2 %
Boil	Mosaic	10 g	5 min	10 %
Whirlpool	Mosaic	20 g	0 min	10 %
Whirlpool	Amarillo	20 g	0 min	9.5 %
Dry Hop	Mosaic	50 g	5 day(s)	10 %
Dry Hop	Amarillo	30 g	5 day(s)	9.5 %

Yeasts

Recipe has been printed via **BREWNES.com** - a complex online solution for homebrewers to track brewing process easily.

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis