

# SCHWARZBIER /PIWOSZARNIA/

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **30**
- SRM **18.9**

## 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 **15 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **55 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **55 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (54.5%)	80 %	4
Grain	Strzegom Monachijski typ I	2 kg (36.4%)	79 %	16
Grain	Jęczmień palony	0.1 kg (1.8%)	55 %	985
Grain	Strzegom Czekoladowy jasny	0.4 kg (7.3%)	68 %	400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	12 %
Aroma (end of boil)	Tradition	15 g	10 min	5 %
Boil	Magnum	10 g	10 min	12 %
Whirlpool	Tradition	20 g	5 min	5 %
Whirlpool	Magnum	25 g	5 min	12 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Saflager W 34/70	Lager	Dry	11.5 g	Fermentis
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### Extras

Type	Name	Amount	Use for	Time
Fining	whirfloc	1.1 g	Boil	5 min