

Ciemne żytnio-pszeniczne

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **24**
- SRM **20.6**
- Style **Dunkelweizen**

Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **7 %**
- Size with trub loss **17.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **44 C**, Time **20 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **11.6 liter(s)** of **76C** water or to achieve **20.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	2 kg (44.4%)	85 %	8
Grain	Pszeniczny	1 kg (22.2%)	85 %	4
Grain	Strzegom Monachijski typ II	1 kg (22.2%)	79 %	22
Grain	Pilzneński	0.25 kg (5.6%)	81 %	4
Grain	Viking Czekoladowy ciemny	0.25 kg (5.6%)	67 %	900

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Tradition	10 g	60 min	5 %
Boil	Cascade PL	15 g	60 min	7 %
Boil	Cascade PL	10 g	15 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
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FM41 Gwoździe i Banany	Wheat	Slant	500 ml	Fermentum Mobile
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Extras

Type	Name	Amount	Use for	Time
Other	Glukoza	150 g	Bottling	---