

żyto II

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **41**
- SRM **45**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **28.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **20.6 liter(s)**
- Total mash volume **28.9 liter(s)**

Steps

- Temp **45 C**, Time **10 min**
- Temp **52 C**, Time **10 min**
- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **20.6 liter(s)** of strike water to **50C**
- Add grains
- Keep mash **10 min** at **45C**
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **28.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.5 kg (18.2%)	80 %	5
Grain	Strzegom Wiedeński	1 kg (12.1%)	79 %	10
Grain	Żytmi	3 kg (36.4%)	85 %	8
Grain	Pszeniczny	0.5 kg (6.1%)	85 %	4
Grain	Caraaroma	0.4 kg (4.8%)	78 %	350
Grain	Strzegom Czekoladowy jasny	0.4 kg (4.8%)	68 %	400
Grain	Barley, Flaked	0.4 kg (4.8%)	70 %	4
Grain	Coffee light	0.25 kg (3%)	--- %	250
Grain	Carafa	0.2 kg (2.4%)	70 %	664
Grain	Carafa III	0.2 kg (2.4%)	70 %	1034
Grain	Strzegom pszenica prażona	0.2 kg (2.4%)	70 %	1000
Grain	Jęczmień palony	0.2 kg (2.4%)	55 %	1000

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	28 g	60 min	5.8 %
Boil	Fuggles	30 g	60 min	4.5 %
Boil	Fuggles	30 g	15 min	4.5 %
Boil	Fuggles	17 g	5 min	4.5 %
Boil	East Kent Goldings	12 g	5 min	5.1 %
Boil	Sladek	22 g	60 min	5.5 %