

RISOK

- Gravity **19.1 BLG**
- ABV **8.3 %**
- IBU **44**
- SRM **80.3**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **15.9 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **68 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **50 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **4.9 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (36.4%)	81 %	4
Grain	Pszeniczny	1 kg (18.2%)	85 %	4
Grain	Żytni	0.5 kg (9.1%)	85 %	8
Grain	Strzegom Karmel 300	0.5 kg (9.1%)	70 %	299
Grain	Fawcett - Pszeniczny Czekoladowy	0.5 kg (9.1%)	73 %	1001
Grain	Strzegom Czekoladowy 400	0.5 kg (9.1%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.5 kg (9.1%)	68 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	20 g	60 min	15.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
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S-04	Ale	Dry	23 g	Fermentis
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Extras

Type	Name	Amount	Use for	Time
Spice	Platki debowe macerowane w whisky	50 g	Secondary	14 day(s)