

stout

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **21**
- SRM **27.3**
- Style **Dry Stout**

Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **10 %**
- Size with trub loss **49.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **60.3 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **34.6 liter(s)**
- Total mash volume **44.5 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **34.6 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **50 min** at **67C**
- Keep mash **20 min** at **72C**
- Sparge using **35.6 liter(s)** of **76C** water or to achieve **60.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	4 kg (40.4%)	80 %	7
Grain	Pilzński	4 kg (40.4%)	81 %	4
Grain	Strzegom Karmel 150	0.6 kg (6.1%)	75 %	150
Grain	Strzegom Czekoladowy jasny	0.6 kg (6.1%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.4 kg (4%)	68 %	1200
Grain	Strzegom pszenica prażona	0.2 kg (2%)	70 %	1000
Grain	Strzegom Barwiący	0.1 kg (1%)	68 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	50 min	10 %
Boil	Lublin (Lubelski)	20 g	20 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Fermentis us-05	Wine	Dry	22 g	Fermentis
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