

- Gravity **11.4 BLG**
- ABV ---
- IBU **40**
- SRM **29.3**
- Style **American Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

### Steps

- Temp **67 C**, Time **120 min**
- Temp **75 C**, Time **60 min**

### Mash step by step

- Heat up **13.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **120 min** at **67C**
- Keep mash **60 min** at **75C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.2 kg (69.7%)	85 %	6
Grain	Black Barley (Roast Barley)	0.27 kg (5.9%)	55 %	1367
Grain	Weyermann - Pale Wheat Malt	0.75 kg (16.3%)	85 %	4
Grain	bestmalz - rye	0.17 kg (3.7%)	80 %	6
Grain	weyermann - chocolate malt	0.2 kg (4.4%)	50 %	900

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	5 g	50 min	12.8 %
Aroma (end of boil)	Cascade	60 g	8 min	6.8 %
Aroma (end of boil)	Chinook	25 g	8 min	12.8 %
Aroma (end of boil)	Amarillo	30 g	8 min	8.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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FM52 Amerykański Sen	Ale	Slant	1200 ml	Fermentum Mobile
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### Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc	3 g	Boil	5 min

### Notes

- zacieranie od 65-60 - 120minut  
podgrzanie od 60-75 - 30minut  
wygrzew na 75min 30minut

122.3 g cukru wyszło 19L 2BLG gestoc koncowa  
*Mar 28, 2017, 12:00 AM*