

## #3.20 / American Stout

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **47**
- SRM **35.3**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **100 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

- Temp **65 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **18 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **50 min** at **65C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Low Colour MARIS OTTER	5 kg (83.3%)	70 %	5
Grain	Słód Special B	0.25 kg (4.2%)	77 %	290
Grain	Słód jęczmienny Caraaroma	0.15 kg (2.5%)	74 %	400
Grain	Słód Pszeniczny Czekoladowy	0.15 kg (2.5%)	72 %	900
Grain	Palone ziarno jęczmienia	0.35 kg (5.8%)	65 %	1100
Grain	Słód Barwiący Obtuszczony	0.1 kg (1.7%)	65 %	900

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	40 g	60 min	13 %
Boil	Citra	50 g	0 min	12 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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FM52 Amerykański Sen	Ale	Slant	120 ml	Fermentum Mobile
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