

## Drwal#3

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **73**
- SRM **33.6**
- Style **American Stout**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **40 min**
- Evaporation rate **10 %/h**
- Boil size **27.4 liter(s)**

### Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.4 liter(s)**
- Total mash volume **24.6 liter(s)**

### Steps

- Temp **63 C**, Time **50 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **18.4 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **50 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **27.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	2.3 kg (37.4%)	85 %	7
Grain	Viking Pilsner malt	1.1 kg (17.9%)	82 %	4
Grain	Cookie Viking Malt	0.5 kg (8.1%)	77 %	70
Grain	Weyermann - Carafa special typ I	0.4 kg (6.5%)	70.6 %	900
Grain	Weyermann Specjal W	0.3 kg (4.9%)	68 %	300
Grain	Czekoladowy pszeniczny Weyermann	0.25 kg (4.1%)	68.8 %	1000
Grain	Płatki owsiane	0.5 kg (8.1%)	60 %	3
Grain	Słód pszeniczny Bestmalz	0.5 kg (8.1%)	82 %	5
Grain	Żytni	0.1 kg (1.6%)	85 %	8
Grain	Słód owsiany Fawcett	0.2 kg (3.3%)	61 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
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Boil	Columbus/Tomahawk/Zeus	37 g	35 min	12.6 %
Boil	Simcoe	26 g	30 min	12.6 %
Boil	Sabro	20 g	20 min	15.8 %
Aroma (end of boil)	Sabro	30 g	1 min	15.8 %
Dry Hop	Sabro	47 g	4 day(s)	15.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	10.5 g	---

### Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips piwowarski	1.7 g	Mash	90 min
Fining	Mech Irlandzki	4 g	Boil	10 min