

Mroczna Pani 3

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **38**
- SRM **37.9**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **31.2 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **19.5 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **18.2 liter(s)** of **76C** water or to achieve **31.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	2.5 kg (38.5%)	80 %	6
Grain	White Wheat Malt	2 kg (30.8%)	86 %	4
Grain	Simpsons - Golden Naked Oats	1 kg (15.4%)	73 %	20
Grain	Weyermann - Dehusked Carafa III	0.5 kg (7.7%)	70 %	950
Grain	Weyermann - Chocolate Rye	0.5 kg (7.7%)	20 %	800

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Bramling	30 g	60 min	6.2 %
Boil	Fuggles	30 g	30 min	6.9 %
Boil	Fuggles	20 g	20 min	6.9 %

Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

Mangrove Jack's M42 New World Strong Ale	Ale	Dry	20 g	Mangrove Jack's
------------------------------------------------	-----	-----	------	-----------------