

## TB DS

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- Gravity **12.1 BLG**
- ABV ---
- IBU **43**
- SRM **38.1**
- Style **Dry 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 **15 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **67 C**, Time **70 min**
- Temp **68 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **16 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **10 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	3.5 kg (77.8%)	80 %	4
Grain	Chocolate Malt (UK)	0.2 kg (4.4%)	73 %	887
Grain	Jęczmień palony	0.3 kg (6.7%)	55 %	985
Adjunct	Briess - Barley Flakes	0.5 kg (11.1%)	70 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Target	35 g	60 min	10.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M03 UK Dark Ale	Ale	Dry	10 g	Mangrove Jack's