

## Stout bidak

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **37**
- SRM **34.3**
- Style **Dry Stout**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20.8 liter(s)**
- Total mash volume **26 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **75 C**, Time **15 min**

### Mash step by step

- Heat up **20.8 liter(s)** of strike water to **70.6C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **15 min** at **75C**
- Sparge using **12.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilsner (2 Row) Ger	4 kg (76.9%)	81 %	4
Grain	Jęczmień palony	0.2 kg (3.8%)	55 %	985
Grain	Extra Black	0.2 kg (3.8%)	55 %	985
Grain	Carafa II	0.2 kg (3.8%)	70 %	812
Grain	Pszeniczny Czekoladowy	0.2 kg (3.8%)	73 %	1001
Grain	płatki jęczmienne	0.4 kg (7.7%)	75 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	16 g	60 min	5.1 %
Boil	Northdown	11 g	20 min	8.2 %
Boil	First Gold	19 g	5 min	7.5 %
Boil	Mag	15 g	60 min	11 %
Boil	Mandarina Bavaria	15 g	5 min	8.6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's
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