

## Bridge of Khazad-dûm 11 litrów

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **39**
- SRM **6**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19.8 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **26.9 liter(s)**

### Steps

- Temp **55 C**, Time **10 min**
- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **22 liter(s)** of strike water to **58.9C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **2.7 liter(s)** of **76C** water or to achieve **19.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.8 kg (57.1%)	81 %	4
Grain	Monachijski	1 kg (20.4%)	80 %	16
Grain	Żytni	1 kg (20.4%)	85 %	8
Grain	Viking Malt Caramel Pale	0.1 kg (2%)	80 %	8

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga PH	30 g	20 min	10 %
Whirlpool	Waimea	40 g	10 min	14.3 %
Whirlpool	WAI-ITI	40 g	10 min	2 %
Dry Hop	Waimea	60 g	5 day(s)	14.3 %
Dry Hop	WAI-ITI	60 g	5 day(s)	2 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM42 Stare Nadreńskie	Ale	Slant	250 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	NaCl	6 g	Mash	60 min