

# 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 |