

# Milkshake z porzeczką

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **33**
- SRM **4**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12.5 liter(s)**
- Total mash volume **17.5 liter(s)**

## Steps

- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **12.5 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **45 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (66.7%)	80 %	5
Grain	Płatki pszeniczne	0.5 kg (8.3%)	85 %	3
Grain	Płatki owsiane	0.5 kg (8.3%)	85 %	3
Sugar	Milk Sugar (Lactose)	1 kg (16.7%)	76.1 %	0

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	45 min	11 %
Boil	Sybilla	50 g	5 min	3.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Flavor	czarna porzeczka	1000 g	Secondary	5 day(s)