

## quick milkshake ipa [QMI]

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **12**
- SRM **3.3**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **20 min**
- Evaporation rate **10 %/h**
- Boil size **24.9 liter(s)**

### Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **44 C**, Time **1 min**
- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **47.4C**
- Add grains
- Keep mash **1 min** at **44C**
- Keep mash **60 min** at **68C**
- Keep mash **1 min** at **78C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **24.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (77.8%)	80 %	5
Sugar	Milk Sugar (Lactose)	0.5 kg (11.1%)	76.1 %	0
Grain	Płatki owsiane	0.5 kg (11.1%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Columbus/Tomahawk/Zeus	5 g	60 min	14.4 %
Aroma (end of boil)	Lublin (Lubelski)	40 g	5 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Flavor	pulpa	1750 g	Secondary	5 day(s)