

# Kawko i Mlekosz

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- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **27**
- SRM **42.5**
- Style **Sweet Stout**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **7 %**
- Size with trub loss **24.6 liter(s)**
- Boil time **70 min**
- Evaporation rate **12 %/h**
- Boil size **31.5 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **68 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **17.4 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **15 min** at **68C**
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **19.9 liter(s)** of **76C** water or to achieve **31.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg (31.3%)	80 %	5
Grain	Monachijski	1.5 kg (23.4%)	80 %	16
Grain	Caraaroma	0.5 kg (7.8%)	78 %	400
Grain	Karmelowy żytni Strzegom	0.5 kg (7.8%)	75 %	150
Grain	Płatki owsiane	0.4 kg (6.3%)	85 %	3
Grain	Carafa II	0.4 kg (6.3%)	70 %	1000
Grain	Fawcett - Pszeniczny Czekoladowy	0.2 kg (3.1%)	73 %	1200
Grain	Fawcett - Pale Chocolate	0.3 kg (4.7%)	71 %	690
Sugar	Milk Sugar (Lactose)	0.6 kg (9.4%)	76.1 %	0

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	20 g	60 min	13 %
Boil	Mandarina Bavaria	10 g	15 min	10 %
Boil	Mandarina Bavaria	10 g	5 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Liquid	1000 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Flavor	laktoza	600 g	Boil	15 min