

# IPA v17 #133

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **66**
- SRM **6.1**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **18.1 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.4 liter(s)**
- Boil time **80 min**
- Evaporation rate **21.4 %/h**
- Boil size **25.1 liter(s)**

## Mash information

- Mash efficiency **79.6 %**
- Liquor-to-grist ratio **3.84 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.2 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **70.9C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński - viking	1 kg (19.2%)	80 %	3.6
Grain	pale ale - viking	2.4 kg (46%)	80 %	5.5
Grain	płatki owsiane	0.2 kg (3.8%)	83 %	3
Grain	pszeniczny - bestmalz	0.3 kg (5.8%)	82 %	5
Grain	wiedeński - viking	0.85 kg (16.3%)	79 %	8.6
Grain	monachijski II - viking	0.412 kg (7.9%)	79 %	22
Grain	cara gold - chateau	0.05 kg (1%)	78 %	120

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	15 g	60 min	14.7 %
Boil	Columbus	20 g	15 min	10.7 %
Aroma (end of boil)	El Dorado	50 g	5 min	14.2 %
Aroma (end of boil)	Galaxy	20 g	5 min	17.4 %
Aroma (end of boil)	Simcoe	20 g	5 min	12.9 %
Dry Hop	El Dorado	50 g	2 day(s)	9.5 %

Dry Hop	Galaxy	20 g	2 day(s)	17.4 %
Dry Hop	Sabro	30 g	2 day(s)	14.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	220 ml	Fermentum Mobile
49-dniowa gęstwa				

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	3 g	Mash	---
Water Agent	kwas mlekowy 80% [ml]	4.43 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Water Agent	epsom	0.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	15 min
Water Agent	kwask askorbinowy	4 g	Bottling	---