

# IPA

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- Gravity **15.7 BLG**
- ABV ---
- IBU **72**
- SRM **7.2**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **43 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **52 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.4 liter(s)**
- Total mash volume **43.2 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **32.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **30.4 liter(s)** of **76C** water or to achieve **52 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	10 kg (92.6%)	81 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (4.6%)	79 %	16
Grain	Strzegom Karmel 150	0.3 kg (2.8%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	100 g	60 min	10.6 %
Aroma (end of boil)	Columbus/Tomahawk/Zeus	10 g	15 min	15.5 %
Aroma (end of boil)	Chinook	10 g	15 min	13 %
Aroma (end of boil)	Columbus/Tomahawk/Zeus	20 g	10 min	15.5 %
Aroma (end of boil)	Chinook	20 g	10 min	13 %
Aroma (end of boil)	Columbus/Tomahawk/Zeus	20 g	5 min	15.5 %
Aroma (end of boil)	Chinook	20 g	5 min	13 %
Aroma (end of boil)	Columbus/Tomahawk/Zeus	25 g	0 min	15.5 %
Aroma (end of boil)	Chinook	25 g	0 min	13 %
Whirlpool	Columbus/Tomahawk/Zeus	25 g	0 min	15.5 %

Whirlpool	Columbus/Tomahawk/Zeus	25 g	0 min	15.5 %
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## Yeasts

Name	Type	Form	Amount	Laboratory
Danstar BRY-97	Ale	Dry	23 g	danstar