

# Biedne Pale Ale

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- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **50**
- SRM **6.3**
- Style **American Pale Ale**

## 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 **15.5 liter(s)**
- Total mash volume **21.7 liter(s)**

## Steps

- Temp **70 C**, Time **1 min**
- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

## Mash step by step

- Heat up **15.5 liter(s)** of strike water to **75.2C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **1 min** at **70C**
- Keep mash **10 min** at **72C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.8 kg (77.4%)	81 %	4
Grain	Pszeniczny	0.5 kg (8.1%)	85 %	4
Grain	Strzegom Karmel 30	0.2 kg (3.2%)	75 %	30
Grain	Caramunich® typ I	0.2 kg (3.2%)	73 %	80
Grain	Monachijski	0.5 kg (8.1%)	80 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	33 g	60 min	14.5 %
Boil	Citra	50 g	1 min	12.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale