

# PILS zwykłe piwo

- Gravity **12.4 BLG**
- ABV ---
- IBU **26**
- SRM **3.9**
- Style **Dortmunder Export**

## Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **19.7 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.3 liter(s)**
- Total mash volume **15.8 liter(s)**

## Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **12.3 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **19.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.2 kg (90.9%)	81 %	4
Grain	Strzegom Monachijski typ I	0.32 kg (9.1%)	79 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	7 g	60 min	13 %
Boil	Saaz (Czech Republic)	25 g	20 min	4.5 %
Boil	Saaz (USA)	25 g	5 min	3.75 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Bavarian lager m76 Mangrove jack	Lager	Dry	20 g	Mangrove Jack