

# lichtenhainer v1

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- Gravity **8.3 BLG**
- ABV **3.2 %**
- IBU **12**
- SRM **3.8**
- Style **Grodziskie/Graetzer**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **1 %**
- Size with trub loss **23.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.8 liter(s)**

## Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **5.5 liter(s) / kg**
- Mash size **18.1 liter(s)**
- Total mash volume **21.4 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **18.1 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **12 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Grodziski pszeniczny wędzony dębem	1 kg (30.3%)	80 %	3
Grain	Strzegom Wiedeński	2 kg (60.6%)	79 %	10
Grain	Żytni	0.3 kg (9.1%)	85 %	8

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cashmere	15 g	30 min	7.3 %
Aroma (end of boil)	Cashmere	10 g	5 min	7.3 %
Whirlpool	Cashmere	5 g	0 min	7.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

## Notes

- Zakwaszanie w kotle.  
*Feb 27, 2018, 7:47 PM*