

# RIS

- Gravity **23.8 BLG**
- ABV ---
- IBU **79**
- SRM **41.5**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **27.7 liter(s)**
- Total mash volume **35.6 liter(s)**

## Steps

- Temp **50 C**, Time **0 min**
- Temp **62 C**, Time **20 min**
- Temp **67 C**, Time **30 min**
- Temp **74 C**, Time **15 min**

## Mash step by step

- Heat up **27.7 liter(s)** of strike water to **54.3C**
- Add grains
- Keep mash **0 min** at **50C**
- Keep mash **20 min** at **62C**
- Keep mash **30 min** at **67C**
- Keep mash **15 min** at **74C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	1.8 kg (20.9%)	80 %	6
Grain	Strzegom Monachijski typ II	2 kg (23.3%)	79 %	22
Grain	Strzegom Pilzneński	2.3 kg (26.7%)	80 %	4
Grain	Caraaroma	0.12 kg (1.4%)	78 %	400
Grain	Strzegom Barwiący	0.08 kg (0.9%)	68 %	1300
Grain	Strzegom Czekoladowy 1200	0.2 kg (2.3%)	68 %	1202
Grain	Briess - Carabrown Malt	0.9 kg (10.5%)	79 %	108
Grain	Płatki owsiane	0.5 kg (5.8%)	85 %	3
Sugar	cukier	0.7 kg (8.1%)	--- %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	25 g	60 min	12 %
Boil	lunga	17 g	60 min	11 %
Boil	Columbus/Tomahawk/Zeus	25 g	30 min	15.5 %

Boil	Columbus/Tomahawk/Zeus	25 g	15 min	15.5 %
Boil	Lublin (Lubelski)	25 g	15 min	4 %
Boil	Lublin (Lubelski)	25 g	15 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale
US-05	Ale	Slant	120 ml	---