

- Gravity **19.8 BLG**
- ABV **8.7 %**
- IBU **28**
- SRM **19.8**
- Style **Doppelbock**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.2 liter(s) / kg**
- Mash size **22.7 liter(s)**
- Total mash volume **33 liter(s)**

### Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **22.7 liter(s)** of strike water to **72.8C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **20.7 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4 kg (38.8%)	80 %	4
Grain	Strzegom Wiedeński	3 kg (29.1%)	79 %	10
Grain	Strzegom Monachijski typ I	2.5 kg (24.3%)	79 %	16
Grain	Strzegom Karmel 30	0.6 kg (5.8%)	75 %	30
Grain	Black Castle Malting	0.2 kg (1.9%)	65 %	1400

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	35 g	60 min	11.2 %
Boil	Lublin (Lubelski)	25 g	10 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	23 g	---

### Extras

Type	Name	Amount	Use for	Time
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Fining	mech irlandzki	7 g	Boil	15 min
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