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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **32**
- SRM **3.6**
- Style **Classic American Pilsner**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **20.2 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.2 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.5 kg (89.1%)	80 %	4
Grain	Weyermann - Carapils	0.4 kg (7.9%)	78 %	4
Grain	Acidulated BESTMALZ	0.15 kg (3%)	76 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	11 %
Boil	lunga	10 g	15 min	11 %
Boil	Nectaron	25 g	5 min	12.3 %
Boil	Cascade	15 g	5 min	6 %
Dry Hop	Nectaron	25 g	5 day(s)	12.3 %
Dry Hop	Cascade	15 g	5 day(s)	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
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FM31 Bawarska Dolina	Lager	Slant	300 ml	Fermentum Mobile
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