

Lewandowski

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **27**
- SRM **14.3**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **17.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.1 liter(s)**

Mash information

- Mash efficiency **82 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **100 C**, Time **30 min**
- Temp **100 C**, Time **30 min**

Mash step by step

- Heat up **12.9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **73C**
- Keep mash **30 min** at **100C**
- Keep mash **30 min** at **100C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **22.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Munich Malt	3.34 kg (77.5%)	80 %	18
Grain	Briess - Pilsen Malt	0.84 kg (19.5%)	80.5 %	2
Grain	Carafa II	0.13 kg (3%)	70 %	812

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	30 g	60 min	4.5 %
Aroma (end of boil)	Hallertau Blanc	15 g	10 min	11 %
Aroma (end of boil)	Saaz (Czech Republic)	15 g	10 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP830 - German Lager Yeast	Lager	Liquid	100 ml	White Labs