

Wirkungstreffer

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **19**
- SRM **18.7**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **13.5 liter(s)**
- Trub loss **0 %**
- Size with trub loss **13.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **17.8 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

Steps

- Temp **64 C**, Time **20 min**
- Temp **70 C**, Time **45 min**

Mash step by step

- Heat up **12.9 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **20 min** at **64C**
- Keep mash **45 min** at **70C**
- Sparge using **9.2 liter(s)** of **76C** water or to achieve **17.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	2 kg (46.5%)	79 %	16
Grain	Strzegom Wiedeński	1.5 kg (34.9%)	79 %	10
Grain	Słód Caramunich Typ II Weyermann	0.25 kg (5.8%)	73 %	120
Grain	Weyermann - Melanoiden Malt	0.2 kg (4.7%)	81 %	53
Grain	Weyermann - Carafa I	0.15 kg (3.5%)	70 %	690
Grain	Płatki owsiane	0.2 kg (4.7%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	30 g	60 min	4 %
Boil	Tettnang	10 g	0 min	4 %

Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	10 g	Boil	10 min