

Dunkel

- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **28**
- SRM **18.3**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **17.2 liter(s)**
- Total mash volume **21.5 liter(s)**

Steps

- Temp **55 C**, Time **15 min**
- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **3 min**

Mash step by step

- Heat up **17.2 liter(s)** of strike water to **59.4C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **20 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **3 min** at **78C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ II	3 kg (69.8%)	79 %	22
Grain	Strzegom Pilzneński	0.5 kg (11.6%)	80 %	4
Grain	Strzegom Wiedeński	0.5 kg (11.6%)	79 %	10
Grain	Czekoladowy	0.2 kg (4.7%)	60 %	788
Grain	Strzegom Karmel 600	0.1 kg (2.3%)	68 %	601

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	10 g	60 min	4 %
Boil	Magnum	20 g	30 min	13.5 %
Boil	Perle	20 g	0 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
gozdawa W35	Lager	Dry	10 g	---