

Munich Dunkel

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **23**
- SRM **14.5**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **13.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9 liter(s)**
- Total mash volume **12 liter(s)**

Steps

- Temp **63 C**, Time **10 min**
- Temp **70 C**, Time **50 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **10 min** at **63C**
- Keep mash **50 min** at **70C**
- Keep mash **1 min** at **78C**
- Sparge using **7.8 liter(s)** of **76C** water or to achieve **13.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Minich	2.4 kg (80%)	80.5 %	15
Grain	Caramunich® typ I	0.3 kg (10%)	73 %	80
Grain	Weyermann Caramunich 3	0.3 kg (10%)	76 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka PolishHops	12 g	60 min	7.4 %
Aroma (end of boil)	Marynka PolishHops	18 g	5 min	7.4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	200 ml	Fermentis