Doppelbock 2

- Gravity **20.9 BLG**
- ABV **9.3 %**
- IBU **20**
- SRM **28.8**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **15.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.8 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **61C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **45 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.3 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Münchner Malz Best	2 kg *(35.7%)*	78 %	20
Grain	Wiener Malz Best	3 kg *(53.6%)*	80 %	8
Grain	Caramunich 2 Best	0.2 kg *(3.6%)*	73 %	120
Grain	Cara Amber	0.2 kg *(3.6%)*	75 %	70
Grain	Röstmalz Best	0.2 kg *(3.6%)*	--- %	1100

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	15 g	60 min	7.3 %
Boil	Perle	15 g	60 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	11 g	Fermentis