

alt

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **36**
- SRM **14.3**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **36.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **44 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **27.5 liter(s)**
- Total mash volume **36.6 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **29 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **27.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **29 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **25.7 liter(s)** of **76C** water or to achieve **44 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4 kg (43.7%)	80 %	4
Grain	Strzegom Monachijski typ I	4 kg (43.7%)	79 %	16
Grain	Caramel/Crystal Malt - 30L	1 kg (10.9%)	75 %	59
Grain	Strzegom Czekoladowy 1200	0.16 kg (1.7%)	68 %	1202

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Spalt	100 g	60 min	5.5 %
Boil	Spalt	20 g	10 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
fm 42	Ale	Liquid	80 ml	Fermentum Mobile