

Altus

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **48**
- SRM **13.5**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 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 **50 C**, Time **5 min**
- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **17.2 liter(s)** of strike water to **53.8C**
- Add grains
- Keep mash **5 min** at **50C**
- Keep mash **45 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **11.2 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (69.8%)	80 %	4
Grain	Strzegom Monachijski typ I	1 kg (23.3%)	79 %	16
Grain	Strzegom Karmel 100	0.2 kg (4.7%)	75 %	100
Grain	Carafa II	0.1 kg (2.3%)	10 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	12 %
Boil	Perle	20 g	10 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale K-97	Ale	Dry	11.5 g	Fermentis