

# 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 |