

## 8A. Munich Dunkel

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **24**
- SRM **20.1**
- Style **Munich Dunkel**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **21.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4.24 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

### Mash step by step

- Heat up **17 liter(s)** of strike water to **59.1C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Sparge using **8.5 liter(s)** of **76C** water or to achieve **21.5 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount       | Yield | EBC |
|-------|-----------------------------|--------------|-------|-----|
| Grain | Strzegom Monachijski typ I  | 3 kg (75%)   | 79 %  | 16  |
| Grain | Strzegom Monachijski typ II | 0.6 kg (15%) | 79 %  | 22  |
| Grain | Weyermann Caramunich 3      | 0.2 kg (5%)  | 76 %  | 150 |
| Grain | Weyermann - Carafa II       | 0.2 kg (5%)  | 70 %  | 837 |

### Hops

| Use for             | Name                  | Amount | Time   | Alpha acid |
|---------------------|-----------------------|--------|--------|------------|
| Boil                | Magnum                | 12 g   | 60 min | 11 %       |
| Aroma (end of boil) | Saaz (Czech Republic) | 20 g   | 15 min | 4.2 %      |

### Yeasts

| Name  | Type | Form  | Amount | Laboratory |
|-------|------|-------|--------|------------|
| Lutra | Ale  | Slant | 100 ml | ---        |

### Extras

Recipe has been printed via **BREWNES.com** - a complex online solution for homebrewers to track brewing process easily.

| Type        | Name  | Amount | Use for | Time   |
|-------------|-------|--------|---------|--------|
| Water Agent | CaCO3 | 4 g    | Boil    | 60 min |