

MILK MARSHAL

- Gravity **18.9 BLG**
- ABV **8.2 %**
- IBU **29**
- SRM **37.1**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **15 %**
- Size with trub loss **21.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **25 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **30.4 liter(s)**

Steps

- Temp **67 C**, Time **120 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **22.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **120 min** at **67C**
- Keep mash **10 min** at **75C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **25 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---|----------------|--------|------|
| Grain | Malting company of ireland - Irish Ale Malt | 4.6 kg (60.5%) | 80.5 % | 7 |
| Grain | Weyermann - Pale Wheat Malt | 1.2 kg (15.8%) | 85 % | 4 |
| Grain | Bestmalz - Cara Munich Type II | 0.2 kg (2.6%) | 75 % | 120 |
| Grain | Bestmalz - Cara Aromatic | 0.35 kg (4.6%) | 78 % | 50 |
| Grain | Black Barley (Roast Barley) crushed | 0.5 kg (6.6%) | 50 % | 1300 |
| Grain | weyermann - abbey malt | 0.75 kg (9.9%) | 75 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------|--------|--------|------------|
| Boil | Tradition | 60 g | 50 min | 4.8 % |
| Aroma (end of boil) | Fuggles | 60 g | 5 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|---------------------------|-----|-----|----------|------------------|
| FM13 Irlandzkie Ciemności | Ale | Dry | 115.15 g | Fermentum Mobile |
|---------------------------|-----|-----|----------|------------------|

Extras

| Type | Name | Amount | Use for | Time |
|--------|-----------|--------|---------|-------|
| Fining | Whirlfloc | 3.45 g | Boil | 5 min |
| Other | lactose | 500 g | Boil | 5 min |