

## German Hop

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- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **57**
- SRM **8.6**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **21.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **64 C**, Time **60 min**
- Temp **70 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **70C**
- Sparge using **11.6 liter(s)** of **76C** water or to achieve **21.6 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount       | Yield  | EBC |
|-------|-----------------------------|--------------|--------|-----|
| Grain | BESTMALZ - Bestt Pale Ale   | 2 kg (40%)   | 80.5 % | 6   |
| Grain | BESTMALZ - Best Vienna      | 1 kg (20%)   | 80.5 % | 9   |
| Grain | BESTMALZ - Best Minich Dark | 1 kg (20%)   | 80 %   | 28  |
| Grain | Pszeniczny                  | 0.35 kg (7%) | 85 %   | 4   |
| Grain | Cara-Pils/Dextrine          | 0.3 kg (6%)  | 72 %   | 4   |
| Grain | Carabelge                   | 0.2 kg (4%)  | 80 %   | 30  |
| Grain | Aroma CastleMalting         | 0.15 kg (3%) | 78 %   | 100 |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Polaris           | 10 g   | 60 min | 22.3 %     |
| Boil    | Tradition         | 10 g   | 60 min | 7.7 %      |
| Boil    | Comet             | 10 g   | 10 min | 8 %        |
| Boil    | Mandarina Bavaria | 10 g   | 10 min | 6.4 %      |
| Boil    | Huell Melon       | 10 g   | 10 min | 7.5 %      |
| Boil    | Hallertau Blanc   | 10 g   | 10 min | 9.3 %      |

|      |            |      |        |       |
|------|------------|------|--------|-------|
| Boil | Callista   | 10 g | 10 min | 3.7 % |
| Boil | Ariana     | 10 g | 10 min | 8.5 % |
| Boil | Cascade DE | 10 g | 10 min | 6.7 % |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11.5 g | Fermentis  |