

## Modern bitter

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **45**
- SRM **5.2**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.9 liter(s)**

### Fermentables

| Type  | Name                     | Amount         | Yield | EBC |
|-------|--------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt     | 4.2 kg (93.8%) | 77 %  | 5   |
| Grain | Pszeniczny               | 0.2 kg (4.5%)  | 80 %  | 4   |
| Grain | Karmelowy żytni Strzegom | 0.08 kg (1.8%) | 75 %  | 150 |

### Hops

| Use for             | Name    | Amount | Time     | Alpha acid |
|---------------------|---------|--------|----------|------------|
| Boil                | Chinook | 15 g   | 60 min   | 13 %       |
| Boil                | Chinook | 20 g   | 15 min   | 13 %       |
| Aroma (end of boil) | Chinook | 15 g   | 5 min    | 13 %       |
| Dry Hop             | Citra   | 30 g   | 4 day(s) | 12 %       |
| Dry Hop             | Citra   | 70 g   | 4 day(s) | 12 %       |

### Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-05 | Ale  | Dry  | 11.5 g | ---        |

### Notes

- ziarno zacierane ponad 70min do negatywnej próby jodowej wyszło 18l  
*Jun 7, 2018, 11:08 PM*