

Zeus

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **59**
- SRM **4.4**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|---------|----------------------|--------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (83.3%) | 80 % | 5 |
| Adjunct | Płatki owsiane | 1 kg (16.7%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 20 g | 60 min | 14.4 % |
| Boil | Columbus/Tomahawk/Zeus | 10 g | 45 min | 14.4 % |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 20 g | 5 min | 14.4 % |
| Whirlpool | Columbus/Tomahawk/Zeus | 50 g | 10 min | 14.4 % |
| Dry Hop | Columbus/Tomahawk/Zeus | 50 g | 4 day(s) | 15.5 % |
| Dry Hop | Citra | 50 g | 4 day(s) | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale | Dry | 11 g | --- |

Extras

| Type | Name | Amount | Use for | Time |
|------|-------------------|--------|---------|-------|
| Herb | Zest z mandarynek | 1000 g | Boil | 5 min |

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|--------|-----------|------|------|--------|
| Fining | whirlfloc | 10 g | Boil | 10 min |
|--------|-----------|------|------|--------|