

# Kooperacja

- Gravity **13.6 BLG**
- ABV ---
- IBU **43**
- SRM **7.4**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **34.8 liter(s)**
- Total mash volume **44.8 liter(s)**

## Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 8 kg (80.4%)   | 80 %  | 5   |
| Grain | Carahell             | 0.4 kg (4%)    | 77 %  | 26  |
| Grain | caramunich           | 0.3 kg (3%)    | --- % | 90  |
| Grain | Pszeniczny           | 1 kg (10.1%)   | 85 %  | 4   |
| Grain | Monachijski          | 0.25 kg (2.5%) | 80 %  | 16  |

## Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Magnat            | 35 g   | 60 min | 14.2 %     |
| Boil    | Marynka           | 15 g   | 20 min | 10 %       |
| Boil    | Lublin (Lubelski) | 15 g   | 20 min | 4 %        |
| Boil    | Marynka           | 25 g   | 10 min | 10 %       |
| Boil    | Lublin (Lubelski) | 25 g   | 10 min | 4 %        |
| Boil    | Marynka           | 20 g   | 0 min  | 10 %       |
| Boil    | Lublin (Lubelski) | 20 g   | 0 min  | 4 %        |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11 g   | Fermentis  |
| Safale S-04  | Ale  | Dry  | 11 g   | Safale     |