

# 92 & 93: 10.2 Mk4

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Category: 16 – Belgian and French Ale  
Subcategory: E – Belgian Specialty Ale



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Kettle Volume: 7.79 gal (13.09 °P)	Efficiency: 64.0%
Boil Duration: 1.75 h	Attenuation: 79.6%
Evaporation: 1.57 gal	Evap./Hour: 0.9 gal
Water Volume Added: 5.0 gal	
Final Volume: 11.0 gal (10.4 °P)	

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## Ingredients:

12.0 lb (63.2%) German 2-row Pils  
5.0 lb (26.3%) White Wheat Malt; Briess  
1.0 lb (5.3%) Cara 20 – Caramel Malt; Dingemans  
1.0 lb (5.3%) White Table Sugar (Sucrose)  
30.0 g (100.0%) Magnum (12.2%) – added during boil, boiled 90 m  
0.5 ea Whirlfloc Tablets (Irish moss) – added during boil, boiled 15 m  
202 g WYeast 3522 Belgian Ardennes™  
100 g WYeast 3864 Canadian/Belgian Style Yeast  
10.0 mL BioFine Clear A3 – added dry to secondary fermenter

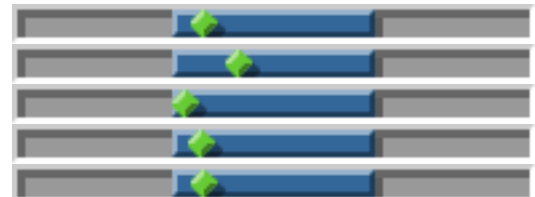
### Water:

6.0 g Calcium Chloride (Calcium Chloride (anhydrous))  
9.65 gal Durango, CO

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## Style:

Recipe	Guideline
Original Gravity: 10.4 °P	6.57 – 28.05
Terminal Gravity: 2.18 °P	-1.3 – 8.77
Color: 4.56 SRM	1.0 – 50.0
Alcohol: 4.34%	2.5% – 14.5%
Bitterness: 16.9	0.0 – 100.0



## Analysis:

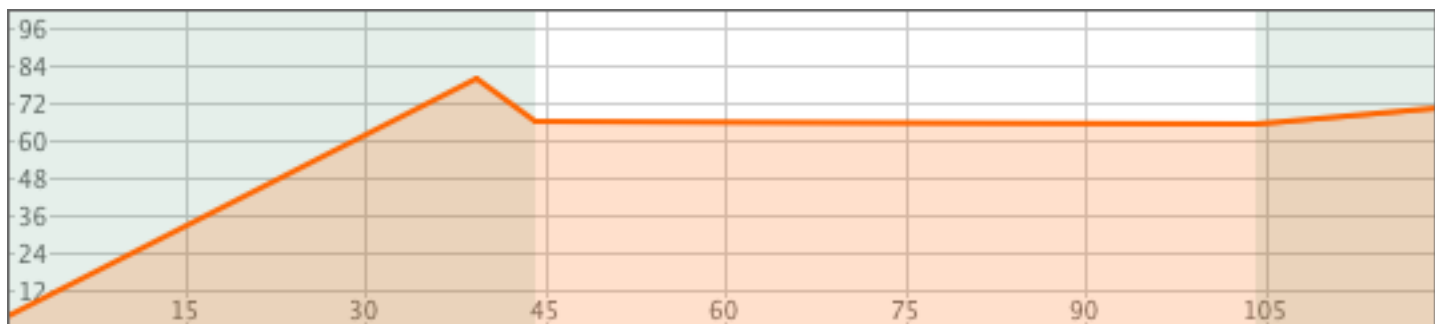
Apparent	Real	Weight	Calories
Original Extract: 10.4 °P	10.4 °P	Alcohol: 16.3 g	112.47 kcal
Attenuation: 79.6%	64.2%	Carbs: 17.26 g	65.59 kcal
Terminal Extract: 2.18 °P	3.72 °P	Protein: 1.21 g	4.83 kcal
% Alcohol: 4.34% ABV	3.42% ABW		Total: 182.89 kcal

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## Schedule:

Ambient Air: 5 °C  
Source Water: 5 °C  
Elevation: 6600 ft

	Elapsed	Thickness	Final Temp.	Available
<b>44.2 m Mash In</b> <i>Liquor: 5.5 gal</i> <i>Strike: 80.54 °C</i> <i>Target: 67.0 °C</i>	00:44:10	2.55 L/kg	67.0 °C	3.36 gal
<b>60 m Saccharification Rest</b> <i>Rest: 60 m</i> <i>Final: 66.3 °C</i>	01:44:10	2.55 L/kg	66.3 °C	3.35 gal
<b>15.0 m Batch Sparge</b> <i>Sparge #1</i> <i>Volume: 4.15 gal</i> <i>Temperature: 85 °C</i> <i>Duration: 15 m</i> <i>Total Runoff: 7.61 gal</i>	01:59:10	0.0 L/kg	71.7 °C	0.0 gal



### Carbonation:

**Natural Conditioning**  
 Beer Temp: 68.0 °F  
 Priming Agent Rate: 4.02 g/L  
 Priming Agent Mass: 251.06 g  
 Volumes CO2: 2.4

**Forced Carbonation**  
 Beer Temp: 7 °C  
 Pressure: 13.51 PSI  
 Volumes CO2: 2.4

### Volume Adjustments:

-100 mL Kettle  
 -.25 gal Fermenter

### Notes:

1.5 L starter of each yeast. 3522: thin slurry; 3864: medium slurry.  
 CaCl2 in mash. Mash pH ~5.4, temperature 65.5°C.  
 1R: 3.2 gal, 20.9°P; 2R: 4.5 gal, 9.5°P.  
 Pre-boil: 7.5 gal, 14.3°P.  
 Post-boil: 6.0 gal, 19.1°P.  
 10 min whirlpool, 20 min hot stand. 11 min chill (14°C).  
 Pitched at 18°C; ramped to 22°C on day 3. Crashed to ~4°C on day 8; kegged on day 13.  
 FGs: 3522 1.0150; 3864 1.0085.