Desofin™ - Expected Results for Various Copper Alloys

Alloy Class and General Parameters	Dosage	Expected Results			Special Instructions
		Grain Refine-ment	Deoxy-dation	Reduced Casting Temp.	
Yellow Brass (Over 17% Zn. Sn less than 6%. Under 2% total Al, Mn. Ni, Fe, Si. Pb less than 0.5%.)	150 grams per metric ton (5 grams per 100 lb.)	**Yes**	**Yes**	**Yes**	Grain refinement occurs when copper content is between 57 and 63 percent. Optimal grain refinement occurs when copper content is 59.5 percent and aluminum content is 0.6 percent. See Notes 1 and 2.
Leaded Yellow Brass (Over 17% Zn. Sn less than 6%. Under 2% total Al, Mn. Ni, Fe, Si. Pb more than 0.5%.)	150 grams per metric ton (5 grams per 100 lb.)	**Yes**	**Yes**	**Yes**	
High Strength Yellow Brass (Manganese Bronze) (Over 17% Zn. Over 2% total Al, Mn. Sn, Ni, Fe. Si less than 0.5%. Pb less than 0.5%. Sn less than 6%)	150 grams per metric ton (5 grams per 100 lb.)	May reduce grain if Sn + Fe is less than 0.5%	**Yes**	**Yes**	.
Red Brass (2% to 8% Zn. Sn less than Zn. Pb under 0.5%)	200 grams per metric ton (9 grams per 100 lb.)	**No**	**Yes**	**Yes**	Use without AL tubes. Add to transfer ladle along with phos copper. If high oxygen occurs, add Mn before adding Desofin™.
Aluminum Bronze (Al 5% to 15%. Fe up to 10% - with or without Mn or Ni. Si less than 0.5%)	200 grams per metric ton (18 grams per 100 lb.)	**No**	**Yes**	**Yes**	If high oxygen occurs, add Mn before adding Desofin™.
Tin Bronze (Sn 2% to 20%. Zn less than Sn. Pb under 0.5%)	200 grams per metric ton (9 grams per 100 lb.)	**No**	**Yes**	**Yes**	Use without Al tubes. Add to transfer ladle along with phos copper.

Notes:

1. If Sn + Fe is greater than 0.5%, intermetallic compounds will form that will leave "comet tails" when casting is polished.
2. Miller & Englehardt Co., lltd recommends use of "B-2" yellow brass alloy with Desofin™ for permanent molding applications. B-2 alloy composition: Cu 59.5 to 61.5%; Pb 0% to 3.0%; Al 0.5% to 0.7%, Ni 1%; Sn + Fe 0.5 % max, Mn 0.02% max, Si 0.02% max, Zn balance.