

Robust Impact Analysis (focused on EHSS) of CMP Slurry Manufacturing

Required Info.

Start Process

ProcessName(n)

Result Sheet

Help

All Equipment

All Process Time

State Output Emission

Help

Results will added after inventorying data from all the processes

[illegible]

Net Manufacturing CO2	0.00
Net Manufacturing Energy Use	0.00
Net Manufacturing water use	0.00

Shipped slurry information

Parameter	Input Cell	Notes	
Slurry volume(liters)		100	100 Liter slurry tank obtained from vendor for example
slurry density(kg/L)		1	1kg/L
Delivered Abrasive Loading (wt%)		5	Weight % of abrasive in delivered slurry tank(adjusted per mixture or percentage)
Abrasive Content per slurry tank(kg/L)		5	kg of ceria
Abrasive Content per slurry tank(g/L)		5000	grams

POU Slurry Calculations

CO2 eq Emissions due to slurry manufacturing

Total Slurry volume(L)/Wafer
Dilution Factor

40 Volume of slurry used per wafer

30-50 liter used in CMP process

Lee, Hyunseop, Hyoungjae Kim, and Haedo Jeong. "Approaches to Sustainability in Chemical Mechanical Polishing (CMP): A Review." *International Journal of Advanced Manufacturing Technology* 107 (2020): 1171-1187. doi:10.1007/s00170-020-05850-1.