

SILICON CARBIDE RECOVERY PLANT

Our company have a good know how in recovery the exhausted cutting fluids using in cutting wafer or ingots (multi-wire sawing that is the main slicing in the photovoltaic and microelectronic field) .Under is shown the multi-wire sawing principle.



In general two types of slurries can be processed to recovery silicon carbide and dispersion fluid :

- PEG (Poly ethylene glycols PEG 200-300-400) based
- Oil Based

The exhaust slurries have an accumulation of silicon dust , removed in the cutting process that causes the solid volume saturation in the slurries.

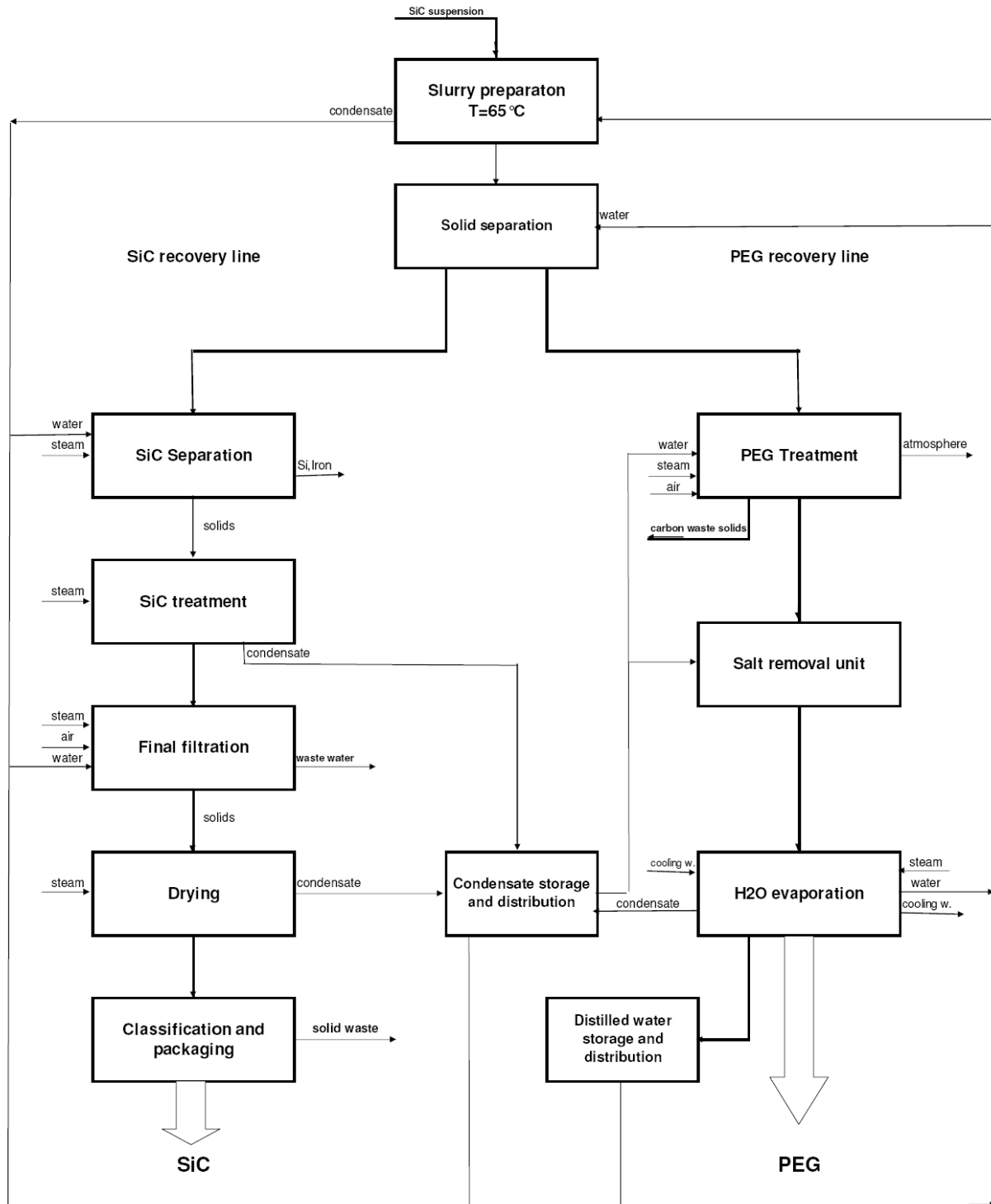
The composition of the exhausted slurry is variable but it is possible to define a following composition range :

Dispersion fluid (PEG or Oil)	: 35-45 %
Silicon carbide	: 35-45 %
Silicon	: 8-12 %
Iron	: 2-4 %
Others (glass ,water etc.)	: 2-4 %



Final step PEG recovery purity more than 99.9%

The treatment of waste in general is tailored on client requests or modified in base at recoveries that can be done. In the block diagram that is under shown the goals is to recovery the silicon carbide that can be reused and the PEG at 99.9%. The iron, silicon and fines silicon carbide are trashed and disposed as solids wastes.



Using a more complicated process it is possible to recovery silicon and iron .



Three effects PEG concentration unit

There are other different ways for this process of PEG recovery.

For the oil waste the first step is the oil extraction using a solvent. The following steps are similar to PEG waste recovery.

The most important specification for the reuse of silicon carbide (excluding the particle size distribution that can be between 4-20 μ) is the content of iron that must be less than 1 ppm and the surface .

To have more information or to have an idea of the process that can be defined for your waste treatment please contact by E-mail our company:
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