Press Release

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MultiCrystallizer: New System Development for the Solar Industry

(Wettenberg, June 16, 2011) – PVA TePla AG, Wettenberg, a manufacturer of silicon crystallization systems as well as vacuum and high-temperature systems, is now marketing a further development of the MultiCrystallizer crystal-growing system, generation G5, for higher loads. The product is named *MultiCrystallizer* VGF732Si *HC*.

The MultiCrystallizer is a vacuum furnace for directional solidification (based on the vertical gradient freeze process) of multicrystalline silicon ingots for the production of wafers for the photovoltaic industry.

The new HC version, generation G5, uses higher crucibles (G5: 480 – 520 mm crucible height; old standard: 420 mm) to enable greater loads of silicon up to a maximum weight of 560 kg.

The furnace has a unique temperature control system with a heating zone that, thanks to its outstanding level of temperature homogeneity, ensures columnar solidification even on the ingot exterior. This creates perfect conditions for optimal crystallization of higher ingots and means that the same quality can be achieved as with the previous crucible standard of 420 mm. The cell efficiencies achieved are an average of 0.4 percentage points above the industry standard, while the ingot yield is 75% (usable brick material as a proportion of total ingot material).

The higher load also means that optimal brick heights of 250 mm can be achieved in a 480 mm crucible. This brick height makes wafer-cutting as efficient as possible and means that the process is extremely cost-effective for customers.

Not only that, the *MultiCrystallizer* VGF732Si *HC* is especially suited to the mono-like process due to its independently controllable heating and cooling zones. A stable crystallization front throughout the crystallization process enables faults to be avoided and ensures that the mono-like structure remains properly intact.

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