



NEW STORAGE LATENT AND SENSIBLE  
CONCEPT FOR HIGH EFFICIENT CSP PLANTS



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### **Deliverable D3.3 - Report on thermal properties of filler rock material for sensible heat storage**

#### **ABSTRACT**

Following centuries of mining activity throughout Europe, there is an abundant quantity of slag and unused resources that were extracted during the activity of old mines, and many have piles of unused slag material next to the extraction locations. Re-usage of such available materials is important to reduce the need of new materials and in many cases at the same time to solve environmental problems. The testing of fillers for the NewSOL project is based on the material from old sulphur and copper mines in São Domingos mine located in the South East of Portugal, near to the village of Mértola, a first characterization is presented in NewSOL D3.1.

Experimental work was focused on the collecting and characterization of the filler. The material was collected in five different areas of São Domingos mine with different granulometry. The experimental work seeks to make a characterization of the slag material to be used, as aggregate in concrete mixtures for storage systems.

Additionally, a revision of aspects such as Industrial uses of slag in the world and application to thermal energy storage and usage of slags for sensible heat thermal energy storage considering industrial projects and research efforts are presented.