

Angle Grinder Safety Guard

**Naseem, A.M.^{1*}, Bandara, D.M.D.L.¹, Fernando, W.W.S.U.¹,
Thilakarathne, M.R.D.P.¹**

¹*Department of Electrical and Electronics Technology, Faculty of Technology,
Rajarata University of Sri Lanka.*

**ent1718059@tec.rjt.ac.lk*

Innovating the realm of angle grinder safety, our project comprises two pivotal components: the power-controlling unit and a state-of-the-art safety guard. The power-controlling unit, equipped with overload and short circuit protection, orchestrates a meticulous power flow, activated solely by the push button on the grinder. This ensures precision and safety in energizing the device, minimizing risks associated with erratic power supply. The focal point of our endeavor lies in the design of the safety guard, an ingenious shield meticulously crafted to guarantee 100% user safety. When engaging in cutting tasks, the safety guard dynamically adjusts its outer cover, providing a secure space for precision cutting akin to a vice. Following the cut, a tension spring effortlessly returns the outer cover to its initial position, streamlining the operation for users. Furthermore, our safety innovation extends beyond functionality. In the event of an accidental fall, the angle grinder autonomously shuts off, prioritizing user safety. Notably, our project's steady-state current nullifies wasteful power consumption, contributing to energy efficiency and cost savings a distinctive advantage in today's conscientious approach towards sustainable technology.

Keywords: *Angle Grinder; Safety guard; Safety; Power consumption*