The heterotic string theory can embed the crossed gauge group SU(5) x SU(5). Here we investigate the string unification in this framework and the concerning problems. We show generically that only a very constrained parameter space is allowed for new particles, mostly due to the gauge coupling constant $\alpha_1^{-1}$. One possible but unfavourable solution is given by the introduction of three fermion generations of SU(5)$_L$-adjoint representation. Only the low-scale decompositions of SU(5)$_L$ with vanishing hypercharge ((1,3)$_0$ triplets and (8,1)$_0$ octets) of both fermionic and bosonic types can be included to circumvent the problem. The triplets must live in TeV region and could be accessible at colliders. We also show that non-supersymmetric scenario is exclusively compatible with the introduction of additional color-SU(2)$_L$-triplet field while supersymmetry is only possible at high-energy scale. All these intermediated thresholds are easily incorporated into the called Adjoint SU(5) schemes.