



Case Study: South Dakota Air Guard Hanger

The South Dakota Air Guard's hanger floor in Sioux Falls had been previously coated on several occasions. As a result of poor surface prep the Guard was left with a very uneven floor that not only looked unsightly, but also made conveyance of equipment much more difficult. In addition to the floor additional needs included a high wearing safety striping material that could hold up to heavy loads and mechanical abrasion, as well as the filling of numerous expansion joints. Bumble Bee Construction out of Sioux Falls was asked for their proposal on how to solve the uneven floor problem and how to recoat the floor to obtain maximum life under a very tight budget.

Working with our area rep, Jerry Kron of CMI out of the Twin Cities, Jim Weixel of Bumble Bee came up with the following solution: 1. Using diamond grinders, the existing floor would be leveled and the old coating would be removed 2. A first coat of Milamar Coatings' flexibilized, 100% solids, two part epoxy coating, ICO Floor Coating, was applied at 10 mils 3. Two coats of a two part, aliphatic, UV-resistant urethane coating, ICO Ure Guard 60, were then applied at about 2-3 mils dry film thickness per coat 4. Safety striping in several colors was provided using ICO Floor Coating SY at about 15 mils, applied in a single coat 5. Expansion joints were then routed out, filled with backer rod and topped off with our flexible joint material, ICO Lastic – an epoxy/urethane resin with a 140% elongation.

The ICO Floor Coating was selected for a number of reasons. It is a self-priming material that is a low enough viscosity to level to a very smooth surface. Applied at a minimum of 10 mils by squeegee and then back rolling it does fill in some of the gouges and divots in the floor, leaving a relatively smooth surface. As it is a flexibilized epoxy coating, it is not as likely to chip or crack under impact as compared to more conventional epoxy coatings. While our higher build self leveling epoxy, ICO Floor SL, installed between 1/16-1/8" in thickness, would have done a better job of filling in some of the defects in the concrete, because of budgetary constraints, the Air Guard opted for the thinner coating system. The Ure Guard 60 material was chosen as a top coat because of the need for maintaining a high gloss and providing UV protection.

The combination of the epoxy coating bottom coat and top coats of urethane has proven to be an excellent, economical answer to the Guard's flooring problem. Of course, the contractor skill in being able to grind the floor flat was also instrumental in the successful outcome to the project. The Air Guard is particularly happy with the new safety striping that has proven extremely durable in resisting wear and abrasion. At least three more such South Dakota facilities are planned to be redone as time and monies permit.

