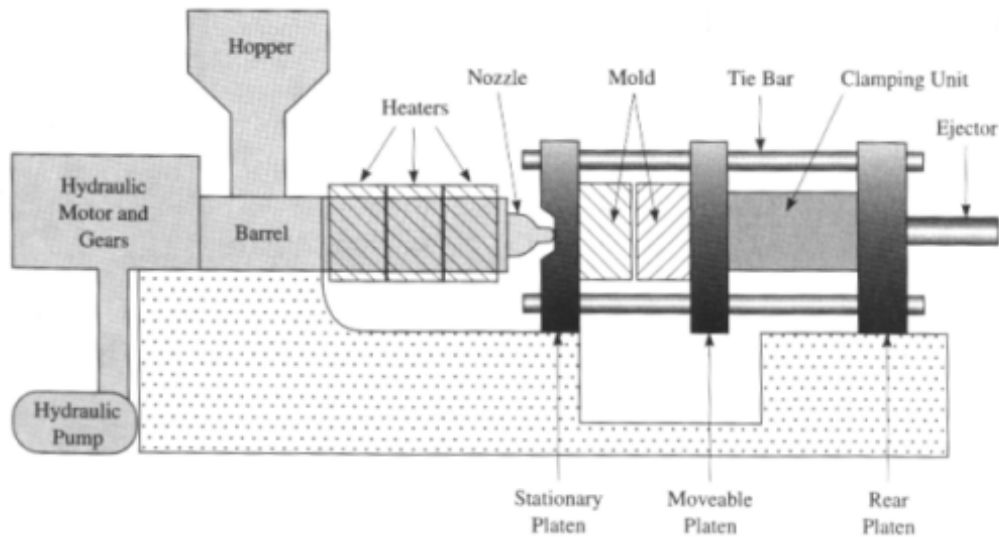


INJECTION MOLDING

REPELA™ is a non-toxic aversive meant to deter rodents and other animals from chewing. It is available with concentrations of up to 50% active ingredients, in micro-crystalline wax or PVC as a carrier. Repela to be used with any polymer, and is compatible with most thermoplastic and thermo-setting polymers. Repela's granular form in wax provides enhanced dispersion and uniform distribution. A dosage of 0.2-0.3% of Repela in the polymer is usually sufficient to display its highest efficiency and performance. Depending on specific requirements, the dosage may be reduced or may need to be increased.

Injection molding

Lids, caps, laundry baskets, toys, mixing bowls, thin walled containers and large garbage bins are all examples of injection molded articles that use polyethylene resin products. Injection molding provides the best method for producing complicated shapes and narrow tolerances.



Begin by mixing Repela 50% Nano wax dispersion at a loading of 0.2-0.3% with the dry plastic material. The materials should be mixed together for approximately 15 minutes. The mix is then loaded into the hopper and fed into a heated injection unit. A reciprocating screw pushes the plastic through this long heating chamber, where the material is softened

amalgamated in the polymer and the active content of Repela is dispersed throughout the resin.

Addition of Repela does not require any modification in the process. It can be simply added in the required quantity to the resin and injected by the normal method with no change in the process parameters.

As the fluid plastic comes from the heating chamber, it is forced at high pressures through a nozzle at the end of the chamber into a cool, closed mold. A system of clamps hold the mold halves shut. As soon as the plastic cools to a solid state, the mold opens and the finished plastic is ejected from the press. As the melt takes a solid shape on cooling, the active Repela particles get equally distributed along the structure.

The active ingredient of Repela is both stable and inert. It does not react with any of the additives and being used at such low concentrations it does not affect the polymer properties in any way. It does not leach out to pollute the environment nor is effectiveness reduced over time because it is trapped in the polymer matrix. It has a long active life and will continue to perform as long as the product remains intact.