**Dream Technologies**

**THE GROUP- DREAM TECHNOLOGIES**

Ours is a group of companies with specific interest and activities in the field of **Plastics**, **Rubbers, Chemicals and Anti-Corrosion solution**. The group deals in turnkey projects, machines manufacturing, project exports, consultancy, commodity exports and R&D in plastics, rubbers and chemicals.

**THE COMPANY**

**DREAM TECHNOLOGIES** A leading manufacturer of very-specialized high performance plastic processing machines and equipment’s designed to meet the unique and specific requirements of plastic compounders and recyclers. The product range includes specially designed Kneader-Extruder type of complete palletizing lines, twin screw compounding extruders, twin screw adjustable mono blocks compounding extruders, laboratories models of compounding machines, specially designed single screw extruders, added-value polymers recycling plants, drying hoppers, large volume dehumidifying dryers, auto loaders, hoppers dryers, granulators, die face cutter, automatic screen changes, dozers and blenders etc. Thus with turnkey advantage, formulations and hi-tech machine DREAM TECHNOLOGIES (9810092309/9810092306) undertakes complete single source responsibility in compounding, recycling and added value polymers recycling.   
For Corrosion solution we provide government approved co-polymeric and chemical coatings on turnkey basis.

**THE ACTIVITIES**

A devoted team of well-experienced professionals from the field of plastic and chemicals with multi-national background and well exposed to the R & D, engineering, manufacturing, marketing, market research and other general management areas. We design, build, sell, install, run the quality equipment’s that increase the productivity and the profitability of our customers and provide age-long solution in fighting with corrosion.

We look forward to meet and discuss in detail.

Regards

**For Dream Technologies**

**SANJEEV SINHA**

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**COMPOUNDING**

Compounding process upgrades raw plastic material into a product having properties tailored to its final application. Conventional process includes the simple conversion of powder into pellets as well as removal of large quantities of solvents and volatiles, modifications with fillers and reinforcing materials by reactive compounding. The special properties required for any specific application, are enhanced by adding different polymers, additives, fillers, lubricants, plasticizers etc. in different ratios to achieve the desired properties most economically.

The compounding operation on plastics or polymers is an art. The concept of compounding started with rubber latex in the nineteenth century because the latex form of rubber, collected from trees, had a very little strength and could not give the desired varieties of product. Then came the conception of adding filler and other ingredients to rubber latex for getting improved strength as well as specific properties in upgraded form. Gradually this compounding technique was adopted into plastics and nowadays lot of tailor made products can be produced by this technique.

The compounding operation must be a capable of dispersing fillers and additives optimally and maintaining the required physical structure of the reinforcing materials, such as glass, tube, carbon black or calcium carbonate, while keeping thermal degradation of the polymers components to a minimum.

**MACHINES USED FOR COMPOUNDING PROCESSES**

Based on the basic idea of compounding the following machines are used, which are categorically discussed below.

**— Two Roll Mill**

The simplest machines being used for compounding production. Two rolls move in opposite direction and mixing of polymers takes place in the nip of the rollers. Heating is done either electrically or by the help of steam or oil. This machine is still popular in rubber industries where the ultimate product is required in sheet form. Major limitation of the process is that of uncontrolled temperature due to which high melting point plastics cannot be processed in the machine. Dispersion is also not achieved properly.

— **Banbury Mixer**

It is totally an enclosed chamber machine in which compounding of polymer is done in between the rollers or roller and machine surface. It is usually used for rubber compounding. Temperature cannot be controlled during the process.

* **Single Screw Extruder**

Use of this machine for compounding purposes is very limited because intensive mixing cannot be achieved in case of a single screw. Usually high L/D ratio is used to get efficient melt mixing during extrusion. The melt polymer travels along the flight of the screw and is crushed between the screw tip and barrel. It is finally carried to the die head and according to die design one gets the final product. Sometime venting is provided to remove volatile products. Heat exposure is for a very long period.

* **Twin Screw Extruder**

In this machine, two screws are used in the barrels which move in opposite direction. This is the latest version of compounding machine. Mixing of polymer takes place in between the screws or screw tip and barrel. An extensive mixing is achieved in this case. During the process the polymer is subjected to high stress and temperature. To avoid degradation a high quantity of stabilizer is used during extrusion. This machine is very useful in case of polymer blends specially engineering polymers.

**Advantage of mixing machines over other Compounding Machinery**

1. Minimum thermal degradation of polymer.
2. Can handle broad range of products.
3. Can produce the same quality for a long time.
4. More economical due to high output rate.
5. Permits easy scale up and scale down during the process.
6. An extensive mixing in achieved without disturbing the stability of the polymers.

**INDIAN Plastic Compounding Industry**

THE INDIAN plastic compounding industry is witnessing a high growth rate of around 15%-25% thanks to high growth rates, in turn, from the end-user industries. This has mainly been driven by the automotive sector, since the economy is already showing signs of recovery from the downturn.

As the industry is heavily dependent on the automotive sector, launches of new cars in the small segments are expected to drive the demand for plastic compounds. While the economy is witnessing a slowdown, it is already on the path toward recovery.

With an increasing focus towards reducing weight and ease of handling, plastics are set to replace traditional materials and become the key material of construction in the future. Additionally, as the Indian per capita consumption of plastics is very low compared with the global standards, there is high potential for the growth of plastic compounds in India.

Capacity expansions by major players such as [**Reliance Industries**](http://www.ril.com/) for [**polypropylene**](http://www.icis.com/v2/chemicals/9076428/Polypropylene.html) (PP) are expected to further drive the demand for compounds in India. Many multinationals are looking to set up base in the subcontinent and this may result in India finally becoming a manufacturing hub with good-quality products for exports.

**IMPORTANT FOR GROWTH**The key drivers for the Indian plastic-compounds market are:

* High growth rates for end-use applications, such as automotive, appliances and wires and cables, which are expected drive demand for plastic compounds in India.
* The current low per capita usage of plastics is expected to increase in India. Currently, per capita usage of plastics is 15.5kg, compared with global usage of 25kg. However, with plastics replacing traditional materials such as metal and glass in many applications, this is expected to change, driving the demand for plastic compounds.
* Substitution of traditional materials by high-quality plastics: there is a trend towards increased use of plastics in place of traditional materials, such as glass, metal and wood because of the inherent advantage of plastics such as its light weight, ease of handling, density reduction in the assembly, and newer innovations.
* India's advantage as a low-cost high-quality manufacturing hub: many multinationals are looking at India as a low-cost manufacturing hub, especially in the automotive and appliances segments, which is expected to drive demand of plastics in the future.

**MASTERBATCHES AND COMPOUNDING**

Master batches is a scattered industry in India, with more than 250 players. Key operators in the organized segment hold about 50% of the market.

In the compounding industry, about 50% of the market is held by the top 10 players, while the balance is either catered for by imports or by players with smaller capacities. PP and polyethylene (PE) are the key polymers used in compounding in India. [**Acrylonitrile-butadiene-styrene (ABS)**](http://www.icis.com/v2/chemicals/9071028/acrylonitrile-butadiene-styrene-copolymer.html) and [**polystyrene**](http://www.icis.com/v2/chemicals/9076433/Polystyrene.html) (PS) are used more for specialized applications.

India's compounding industry can be mainly classified into:

* Exclusive compounders of PP and other engineering compounds
* Producers of compounds and master batches
* Wire and cable compounds

In India, companies that supply the polymers do not undertake the compounding, unlike Western countries' integrated players. Since the market is competitive, prices and performance are the key attributes.

**AUTOMOTIVE**  
The key compounds that are used include PP, [**ABS**](http://www.icis.com/v2/chemicals/9071028/Acrylonitrile-butadiene-styrene%20copolymer.html) and PS, with PP dominating the market. On average, a passenger car uses approximately 30-40kg of PP compounds. Demand for PP in the automotive segment was 150,000 tonnes in 2010, and is expected to reach nearly 350,000 tonnes by 2013.

India's automotive industry was growing at nearly 15% before the economic downturn. And it is already showing signs of recovery. India is the largest manufacturer of three-wheelers and the fourth-largest manufacturer of passenger cars.

The country is slowly becoming a manufacturing hub for automobiles. With the new *Nano* microcar launched by [**Tata Motors**](http://www.tatamotors.com/), the market is expected to recover even faster.

With people looking for lighter materials to enhance performance and ease of handling, the growth of plastics used in the automotive segment is expected to be tremendous.

**APPLIANCES**The Indian appliances market is growing at around 10-12%/year, and the main polymers are styrenics and PP. The consumption of PP is expected to rise from 30,000 tonnes in 2010 to about 90,000 tonnes in 2013. Since the use of PP in each appliance and brand is different, it is difficult to get the actual consumption of PP compounds in the appliance industry in India.

**WIRE AND CABLE**The key applications of the wire and cables market are power and telecommunications. PE and [**polyvinyl chloride**](http://www.icis.com/v2/chemicals/9074317/Polyvinyl%20chloride.html) (PVC) are the main polymers used in the sector.

The key compounders for PE in the wires and cables segments are Kalpana Industries, Shakun Polymers, and Polylink Polymers.

Nearly 50% of the Indian compounding industry is dominated by just a few players, including Hydro S&S Industries, Zylog Systems, Machino Basell India, Aalekh Polymers, Kalpana Industries and Shakun Polymers.

Multinationals including Japan's [**Mitsui**](http://www.mitsui.co.jp/en/), Germany's [**BASF**](http://www.basf.com/group/corporate/en/), Korea's [**Hyundai Engineering Plastics**](http://www.corporateinformation.com/Company-Snapshot.aspx?cusip=C410V5C00), and Netherlands-based group [**DSM Engineering Plastics**](http://www.dsm.com/en_US/html/dep/home_dep.htm), are also setting up compounding facilities to cater for growing demand.

The industry is expected to become more consolidated. Automotive segment suppliers will have to meet the specifications of the auto OEMs.

With the appliances industry coming of age and meeting up with global standards, the requirement for better-quality compounds is growing.

**TPR COMPOUND - Thermoplastic Rubber**

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Thermoplastic rubber, that displays rubber like properties having based segment to achieve excellent strength. Besides conventional vulcanized rubber, it delivers superior properties to make replacement application of rubber and soft plastic in the sense of processing. The compounding ability makes TPR as a homogeneous composition to achieve excellent quality and process ability.   
  
 TPR is based on styrenic as hard segment & soft phase consists of rubbery butadiene centre and crystalline styrene at ends. It can combine well with many other elastomers, extenders, modifiers and other resins.   
  
All these combinations can be controlled to vary properties such as tack stiffness, softening temperatures and cohesive strengths according to the needs of specific and general usage. It is being widely accepted due to its various range in cost effective and value engineered concepts.   
  
**Properties**

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| * Light in weight * Colourability * Good tear strength * Excellent abrasion resistant Excellent dimension stability * Low temperature flexible | * Excellent weather resistant * Performs like vulcanized rubber * Reusable and recyclable * Non-migratory * Excellent electrical properties |

**Applications**  
Superior in quality, the thermoplastic rubber is used in various industrial applications such as:   
  
**Footwear**   
In footwear industry, thermoplastic rubber is used in the the production of shoes soles, loafers sole, safety shoes sole & industrial shoes sole, sports shoes sole, ski-boot soles, kids shoes sole and related decorative accessories, unisole. modifier asphalt, modification modifier for SMC (sheet moulding compound) and other thermoset & thermoplastic composites.   
  
**Automotive, Sports, Leisure (General)**  
In automotive industry, thermoplastic rubber is used in profiles, gaskets, lip-seals, tubing, pipes, co-extrusion automotive gasket, O-ring, bushings, bellows, floor mat, protecting covers, automotive grip. food & medical, ball pen grip, tooth brush grip, umbrella handle grip, milk tubing, disposable medical product, beverages.   
  
**Electrical &. Electronics**  
In electrical and electronics industry, thermoplastic rubber can be used to manufacture welding cable, jacketing, flexible cord, primary wire, fire retardant control cable.

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**TPO COMPOUND (Thermoplastic Olefins)**

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TPO range of thermoplastic elastomers are compounds with Partially cross linked rubber in a continuous thermoplastic matrix having superior Properties to that of thermoplastic Polyolefin or TPOs which have no crosslinking of the rubber phase of the plastic and rubber compositions.

**Properties**

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| * Low Density * Does not require Vulcanization * Available in all various hardness * Excellent Process ability * Better Dimensional Stability * High Impact Strength * Excellent, Oil, Chemical * Solvent & Heat resistant * Non Migratory * Reusable or Recyclable |

**Applications**   
  
**Automotive**  
Profile, Gaskets for windows seals, Lip seals, Coextruded Automotive gaskets, Steering wheels, Bushings, Bellows, Gear Knobs, Petrol tubes.  
  
**Home Appliances**  
Refrigerator gaskets, Trims, Flexible grips, Door handle grips, Suitcase grips and other grips.  
  
**Medical Applications**  
All disposable IV sets, Urine bags with non-migratory and export oriented applications.   
  
**Industrial Applications**  
Hoses & Tubes for Industrial purpose, Chemical Tubing’s, Co Extruded Spiral Hoses Etc.  
  
**Footwear**  
Safety Shoes - Industrial shoes, kid shoes and Sport shoes with highly abrasion, Oil, Chemicals and weather resistant.  
  
**Wire & Cables**  
Welding Cables, Coaxial Cables, High Frequency Cables, Tower & Communication Cable, Cable sleeves, Plug Covers, FRLS Cable Etc.

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**XLPE/PEX COMPOUND (Cross Linked Polyethylene)**

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The polyethylene cross-linked is a method called the Catenary Continuous Vulcanisation (CCV) process by Peroxide. This process improves the properties of the cables and makes it suitable for power transmission. These compounds can be used at high temperature above 110 C where the normal Polyethylene compounds are thermally unstable.

**Type of XLPE/PEX Compounds**

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| * Moisture curable Silane Grafted XLPE (LV/MV up to 33 KV) * Peroxide XLPE (up to 33 KV) * High Temperature Resistant pipes * High temperature (PEX Pipes) |

**Characteristics of XLPE Cables/Pipes**

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| * Higher current carrying capacity with high permissible continuous conductor temperature * Higher temperature to withstand emergency overload * Extremely low dielectric losses * Higher short circuit ratings * Light in weight * Trouble-free in maintenance and simple in terminating and jointing |

* **PVC COMPOUND (PVC/Blend Compound)**

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Vinyl’s PVC compounds that are made from special & selected ingredients to achieve technology that can easily meet specific applications in the form of quality, process and end usage.   
  
 PVC compound are one of the most versatile compounds. These PVC compounds are made from special and selected ingredients to achieve the specific properties for the diverse end application use and have long list of applications such as rigid & flexible applications, crystal clear files, bottles, packaging sheet, flexible PVC compound in wire & cables, films & sheet, coating applications and more.  
  
**Properties**  
The PVC Compounds offered by us superior in quality and available with following properties:

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| * Good physical properties * Long term stability * Good flammability properties & resistance * Good electrical properties |

**Application**  
PVC compounds are used in different industrial applications because of their superior performance, physical properties and special characteristics. A brief description of applications of PVC products in different applications include.   
  
**Medical Applications**  
In medical industry, PVC compounds are used for manufacturing of flanges for Copper-T, oxygen mask, IV- Tubes, regulators, blood bags, urine bags, glucose bags, disposable tubes and more.  
  
**Foods &. Packaging Application**  
In food and packaging applications, PVC compounds can be used to produce bottles, blister packaging films, crown caps, PVC compounds are widely used in industry to manufacture appliance components, boxes, connectors, office equipment, tapes, cable insulation, sheathing, flame retardant sheathing, flame retardant - low smoke sheathing, high temperature cable applications, non migratory sheathing, welding cables, and more.  
  
**Industrial Application**  
The various industrial applications in which PVC compounds are used include Petrol tubes, profiles, co extrusion strap, hoses for fuel & oils, gaskets, sleeves, door & window profiles and sliding, H-band, fitting, lip seals, co-extrusion spiral hoses and all tailor made applications, etc.   
  
**Building &. Construction**  
In building and construction industry, PVC compounds can be used in window profile, weather stripping, conduit, pipes, window frames, pipes, and more.   
  
**Consumer &. Institutional**   
PVC compounds are also widely used in the production of - toys, novelties, bookbinding, footwear, garden hose pipe, handbags, luggage, shoe sole, etc.

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**TPE COMPOUND - Thermoplastic Elastomers**

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TPE is cross linkable elastomers with styrenic rubbers which gives homogenous compound excellent hybrid properties with rubbery effect. TPE gives advantage to cost effective and achieves high performance applications and specification to thermoset rubbers. It bridges gap between plastics and rubbers having vast range of bondable applications.  
  
TPE (thermoplastic elastomer ) is a blend of rubber and plastic. In terms of processing it is clearly a plastic, however in terms of performance it is a rubber. TPE is a blend of elastomer and styrenic rubber, which is partially cores linked and gives excellent synergistic effects & properties.   
  
**Properties**

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| * Low density * Does not require vulcanization * Available in all various hardness * Excellent process ability | * Better dimensional stability * High impact strength * Solvent & heat resistant. * Non migratory * Reusable or recyclable |

**Applications**   
Superior in quality and performance, thermoplastic elastomers are used in different industrial applications and requirements, some of which include:  
  
**Automotive**  
profiles, gaskets for window seals, lip seals, coextruded automotive gaskets, steering wheels, bushings, bellows, gear knobs, petrol tubes   
  
**Home Appliances**  
Refrigerator gaskets, trims, flexible grips, door handle grips, suitcase grips and other grips  
  
**Medical Applications**  
All disposable IV sets, urine bags with non-migratory and export oriented applications  
  
**Industrial Applications**   
Hoses & tubes for industrial purpose, chemical tubing’s, co extruded spiral hoses and more.  
  
**Footwear**   
Safety Shoes Soles, industrial shoes Soles, kid shoes soles and sport shoes soles with highly abrasion, oil, chemicals and weather resistant.  
  
**Wire & Cables**  
Welding cables, coaxial cables, high frequency cables, tower & communication cable, cable sleeves, plug covers, FRLS cables and more.

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**TPV COMPOUND (Thermoplastic Vulcanizates)**

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TPV range of thermoplastic elastomers are compounds with fully cross linked rubber in a continuous thermoplastic matrix of plastic and rubber compositions having excellent elastomeric properties. These range of TPVs are available either in black or colourable (natural colour).  
  
**Properties**

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| * Light in Weight * Excellent Impact Strength * High Elastic Properties * High Flexural Fatigue Resistant * High Tear Strength | * Excellent Weathering Properties * Chemical Resistant * Easy and Efficient Processing * Excellent Electrical Properties * Abrasion Resistant |

**Applications**  
  
**Automotive**   
Bumpers, Soft Nose Bumpers, Window profiles & Seals, Protective Covers, Bellows, Boots, Floor Mats, Knobs, gear Knobs, Flexible Grip, Mirror case, Tubes, Extruded items like Strap, Co-Extruded Automotive Gasket, Trim, Edge band, 2-Shot moulded ventilation flap, 2-shot moulded gasket into car lamps, coloured interior component.

**Electrical & Electronics**  
Welding Cable, jacketing, High Frequency Cable, Fibre Optic Connector, Nesting Transformer Bobbins, Electrical Connector for Aerospace and Oil Industries etc. (ZERO HALOGEN FLAME REARDANTS ELASTOMERS) ZHFR  
  
**Industrial**  
Hoses & Tubing’s, pipes, Gas and Chemical Tubes, Petrol Tubes, Co-Extruded Spiral Hoses, Industrial Purpose Tyre, O-Ring, Sleeves, Weather Strip.  
  
**Medical & Hygiene**  
IV Sets, Blood Bags seal, Urine Bags seal, Food Container Seals, Tooth brush Grip, Complying to FDA & USP Standards.

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**NEA COMPOUND - Nano Engineering Alloys**

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NEA offers a wide range of High performance Engineering Plastic compounds and alloys based on Nylon, ABS,ABS/PMMA, SAN,PBT, and PC having outstanding and electrical properties , dimensional stability, chemical and oil resistance and relatively high heat distortion temperature properties.  
  
**Characteristics**

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| * High Strength and toughness * Excellent creep resistance properties * High Heat Distortion Temperature (HDT) * Very Good Dimensional Stability * Good Electrical properties * High abrasion Resistant * Flame retardant properties meetinUL94 ratings of VO, V1, & V2 |

**Application**   
  
**Automotive:**  
Windshields, Wheel covers & hubs, Outside handles and body parts, Engines covers, Radiators Fans, Gears, Bushes and bearings, fuel rail covers, oil cleaner assembly, dashboard components.  
  
**Industrial Applications**  
Office machines housings, Camera Housings, Loud speaker enclosure, Hair dryers, Lens mounting, Power tool Housings, Knobs, Bobbins, Food mixer, dishwashers, Refrigerator handles, door handles.  
  
**Electrical and Electronics**  
Power tool and drilling housings, Switch plates and boxes, modular switches, energy meters, high voltage plugs, connector and plug strips, Bobbins, base plates for electronic projectors, MCB Housings, CFL Housings, Circuit breakers, Spot light, Traffic signal lights.  
  
**Food and Medical**  
Sterilisable parts, Auto clove parts, health care parts, baby bottles, milk bottles, food packaging boxes.

http://www.synoprene.com/gifs/zero.gif**Modifiers**

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Widely used to modify polymer to enhance good impact, clarity, bond ability flame retardant, possibility etc. Specially custom made modifiers are available for application suitable to :

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| * F R (Flame Retardant) * F R L S (Flame Retardant Low Smoke) * HMFFR (Heavy Metal Fire Flame Retardant) * A B S * H D P E * Polymers * Nylon * H I P S |

**PROJECT PROFILE**

**PRODUCT:** **POLYMER COMPOUNDS**

**INTRODUCTION:** Plastics has found application in almost all the fields of life and the consumption of plastics is increasing by leaps & bounds. Though plastics, a class of polymers, have begun to displace conventional materials in several articles of everyday use-footwear, household’s articles, food packaging and other hi-tech applications etc., the annual per capita consumption of plastics in India is a mere 1 Kg. (approx.) against the world average of around 18 Kg. Plastics have been in short supply and are expensive in India by international standards, but considering the virtually unlimited scope for their use in several fields the potential consumption is very large.

Hence, keeping this fact in view that the plastic raw material is not easily available in India and because of this the raw material cost is very high, the need of compounding was generated. In this process of compounding we mix one/two or more different types of plastics and/or some non-plastic materials in order to economize the material cost. Also many plastics are virtually useless alone but are converted into highly serviceable products by combing them with particulate or fibrous solids. For example, if we mix CaCo3 with polypropylene, we decrease the cost and at the same time enhance the strength and dimensional stability of the product. For this synergic effect we have to mix P.P. & CaCo3 in a certain ratio which gives us the optimum result. In compounding the virgin plastic or the resin functions as an antiparticle adhesive.

The terms compounding is applied both to the selection of additives to modify the properties of a polymer, and to their incorporation with the polymer to give a homogeneous mixture, in a form most suitable for efficient use in the subsequent processing or fabrication step. In order to mix these additives and resins, we take help of certain specialized machines.

**SOME COMPOUNDS WITH GOOD MARKET POTENTIAL**

* TPR Compound
* LDPE Sheathing Compound
* MDPE Insulation Compound
* HDPE Insulation Compound
* HDPE Compound for Pipe Coating
* HDPE/PP Anti friblation Compound
* EPS Compound
* ABS/HIPS Compounds
* FILLED P.P.
* P.P.C.P. Bumper Compound
* NYLON Base Compounds
* NYLIN Base Compound for Optical Fiber Cables
* SPECIALIZED MASTER BATCHES
* UNIVERSAL MASTER BATCHES
* SPECIALIZED PVC Compounds

\_\_ RUBBER Base Compounds

Following are some compounds with very good profit margins and demands:

1.**MASTERBATCHES:**

Particulars Cost price selling price Quantity

White (50-60%) 125/- to 145/- 205/- to 215/- 10-15tons

Black (40-70%) 45/- to 82/- 76/- to 115/- 20-30tons

Blue, red, yellow etc. 125 /- to 185/- 145/- to 225/- 30 tons

2. **T P R:**

Black 115/- to 165/- 160/- to 215/- 30tons

Honey, grey etc. 102/- to 190/- 135/- to 250/- 10 to 12tons

3**. P P R (FILLED):**

PP filled with caco3 65/- to 95/- 105/- to 135/- 30 tons

4. **ANTIFIBLATION:**

Filler for woven sacks etc. 38/- to 52/- 75/- to 89/- 70 ton

**PLANT AND MACHINE DESCRIPTION**

**Process: —**

In this machine we feed the raw material & the fillers along with the antioxidants, coupling agents, stabilizers etc. in the hopper and from there the material goes into a LCM type specially designed kneader with specially designed screws. In this chamber the material gets mixed properly, which is the most important function in compounding; from here the material in the form of a mixed lump is automatically carried to the extruder with the help of an inbuilt conveyor. In this extruder the material is again mixed and extruded. From here it goes to die face cutter where the material is cut into rounded granules. Then it goes to the drier and separated from the impurities, if at all. The material then goes to the automatic weighing and packing system and now the material is ready to be marketed.

**Other Requirements: —**

1. Water ― Around 400―500 Litre/Hr.
2. Labour ― Fully automatic plant so only one technical/semi technical person for lab. One trained person for production and three to five unskilled labourers.
3. Lab ― Few machine like MFI Tester, Oven etc. are required in some cases.
4. Gen. Set (Optional).
5. Cooling Tower (Optional).

**MARKET POTENTIAL OF SOME COMPOUNDS & PROFITABILITY**

1. **Thermoplastic Rubber :** As on date there are thousands of different compounds for differenttypes of applications including the Master Batches (Colour Concentrates). To give a brief idea about the type of market potential and profitability we take up and example of Thermoplastic Rubber Compounds (TPR).

TPR is a thermoplastic which has a very good possibility with Rubbery structure and good abrasion resistance. This compound being very light in weight has many other tailor-made properties which are suitable for some different application in the following industries:

— Shoe Industry

— Tyre Industry

— Cable Industry

1.**MASTERBATCHES:**

Particulars cost price selling price Quantity

White (50-60%) 100/- to 110/- 160/- to 185/- 10-15tons

Black (40-70%) 45/- to 82/- 72/- to 110/- 20-30tons

Blue, red, yellow etc. 93 /- to 145/- 145/- to 225/- 30 tons

2. **T P R:**

Black 85/- to 125/- 118/- to 145/- 30tons

Honey, grey etc. 102/- to 190/- 135/- to 250/- 10 to 12tons

3. **P P R (FILLED):**

PP filled with caco3 42/- to 85/- 52/- to 105/- 30 tons

4. **ANTIFIBLATION:**

Filler for woven sacks etc. 18/- to 28/- 28/- to 38/- 70 tons

**Project Report for Plastic Compounding**

Basic Six colours used in industries:

1. White
2. Black
3. Maroon
4. Grey
5. Silver
6. Blue

Cost for manufacturing one color: -

Machine B-PZ-70

Average Output (per hour) 500kg

Total Load 70 H.P.

Floor Space required 70 x 25 ft. (1700 sqft)

Cost Rs.70 Lacs

Other requirements Water- Around 400-500 Ltr/hr

Labor-Fully automatic plant so only one technical/semi technical person for lab One trained person for production and three to five unskilled laborers.

Lab – Few machine like MFI Tester, Oven etc. are required in some cases.

Gen Set (Optional)

Cooling Tower (Optional)

Raw material cost- Rs. 105/-

Cost of conversion - Rs.15/-

(including Machine Wear Tear, Interest, Wages & Salaries & Utilities etc.)

Total Cost Rs.120/-

Production by one machine 500 kg x 10 hrs

Total 5000 kg per day

Sale Price Rs.165 per kg

Profit Per kg Rs 45/-

5000 x 45 = Rs.2,25,000/- (per day)

Monthly production 5000kg x 26 days= 1,30,000kg

Monthly Profit 1,30,000 x Rs.45 = Rs. 5,85,0000/-