

INDUSTRIAL PRODUCTS CATALOG



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ZARIF-MOSAVAR
INDUSTRIAL
PRODUCTS



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Let's use
water based
products to save our planet

www.resinpolymer.com



ABOUT US

Resinpolymer is one of Zarif-Mosavar`s subsidiaries with more than two decades of experience in oil and resin manufacturing.

Our technical experts design specific water-based emulsions for a wide range of applications.

Our products include vinyl acetate homopolymers, styrene-acrylic copolymers, vinyl-acrylic copolymers, pure acrylic copolymers, XSBR latex, spin-finish oils & textile softeners.





PVAC

HOMOPOLYMER

Poly vinyl acetate (PVAc, poly(ethenyl ethanoate)): commonly referred to as wood glue, white glue, carpenter’s glue, school glue, or PVA glue) is an aliphatic rubbery synthetic polymer with the formula (C4H6O2)_n. It belongs to the polyvinyl esters family with the general formula -[RCOOCHCH2]-. It is a type of thermoplastics.

As an emulsion in water, PVAc emulsions are applied as a good adhesive for porous materials, particularly for wood, paper and cloth. The stiff homopolymer PVAc, would be used as base resin in paint and other coatings, as binder in nonwovens, glass fibers, filter papers and textile finishing.

Applications:

- Wood glue (PVAc is known as “white glue” and the yellow as “carpenter’s glue”.)
- Lower drape sizing
- Paper adhesive during paper packaging conversion
- Wall to wall carpet sizing
- Adhesive in bookbinding and book arts, due to its flexible strong bond and non-acidic nature. (unlike many other polymers)
- Wallpaper adhesive
- Sizing in shoe insole board manufacturing
- Primer for drywall and other substrates

PVAc
Wood
Glue
White
Glue
Carpenter’s
Glue
School
Glue
An Artificial
Rubber
Polymer



| Product Name | Appearance | Solid Content (%) | Viscosity (cP) @20 °C | pH | MFFT | Container: Barrel (200Kg) | Chemical Composition |
|--------------|----------------|-------------------|-----------------------|-------|------|----------------------------|----------------------|
| RP 401 | White Paste | 40 ± 1 | 80000 - 100000 | 5 - 7 | 15 | * | PVAc Homopolymer |
| RP 501 L | White Emulsion | 50 ± 1 | 100 - 1000 | 4 - 5 | 15 | * | PVAc Homopolymer |
| RP 501 | White Paste | 50 ± 1 | 70000 - 100000 | 4 - 5 | 15 | * | PVAc Homopolymer |
| RP 502 | White Paste | 50 ± 1 | 70000 - 100000 | 4 - 5 | <0 | * | PVAc Homopolymer |
| RP 503 | White Emulsion | 50 ± 1 | 2000 - 10000 | 4 - 5 | <0 | * | PVAc Homopolymer |



COPOLYMER

Acrylic Copolymer is a general term for copolymers of two or more monomers consisting of acrylic acid, methacrylic acid or one of their simple esters. Acrylic copolymer emulsion can be used for formulating premium quality decorative paints for interior application. It imparts excellent gloss, flow and leveling properties besides other improved properties such as excellent colour retention, alkali & UV resistance .

Styrene acrylic copolymer emulsion is a water-based dispersion emulsion of styrene acrylic copolymer. Styrene acrylic copolymer family have mixed benefits of styrenics with the optical quality of acrylates.

These kinds of copolymers can be used as:

- Concrete & tile adhesive
- Cellophane glue
- White roof coating
- Acrylic paint
- Paper sizing

Vinyl acrylic copolymer emulsion is a stabilized colloid water-based copolymer emulsion of vinyl acetate-acrylic copolymers. This product offers great holding power and high inter-molecular strength.

It would be used in manufacturing exterior and interior semi gloss/flat paints.

| Product Name | Appearance | Solid Content [%] | Viscosity [cP] @20 °C | pH | MFFT | Container: Barrel (200Kg) | Chemical Composition |
|--------------|-----------------------|-------------------|-----------------------|-----------|------|----------------------------|----------------------------------|
| RP 5030 | White Emulsion | 50 ± 1 | 2000 - 5000 | 4 - 5 | 8 | * | Vinyl Acrylic Made by 3 Monomers |
| RP 5020 | White Emulsion | 50 ± 1 | 2000 - 4000 | 4 - 5 | 0 | * | Vinyl Acrylic Made by 2 Monomers |
| RP 5033 | Bluish White Emulsion | 50 ± 1 | 3000 - 8000 | 7 - 9 | <13 | * | Styrene Acrylic |
| RP 5023 | Bluish White Emulsion | 50 ± 1 | 3000 - 8000 | 7 - 9 | 0 | * | Styrene Acrylic |
| RP T30 | Bluish White Emulsion | 29 ± 1 | 100 - 200 | 2 - 3 | - | * | Pure Acrylic |
| RP V40 | Bluish White Emulsion | 39 ± 1 | 100 - 300 | 5.5 - 6.5 | <0 | * | Vinyl Acrylic Self-Crosslinking |

These kinds of copolymers can be used as:

- Semi-plastic and plastic paint
- Soft texture sizing
- Carpet back coating



PURE ACRYLIC

Pure acrylic resins are a group of related thermoplastic or thermosetting plastic substances derived from acrylic acid, methacrylic acid or other acrylic monomers. Pure acrylic resin is being used in an emulsified form for manufacturing lacquer, textile finishes, adhesives and etc.

These kinds of products can be used as:

- Lable and tape (BOPP) adhesive
- Ineffective adhesive
- Cellophane glue
- Acrylic paint
- Soft and hard texture sizing
- Curtain sizing

-Lable
adhesive
-tape
adhesive

A Group of related
thermoplastic or
thermoplastic
substances

| Product Name | Appearance | Solid Content (%) | Viscosity (cP) @20 °C | pH | MFFT | Container: Barrel (200Kg) | Chemical Composition |
|--------------|-----------------------|-------------------|-----------------------|-------|------|----------------------------|--------------------------------|
| RP 55 | White Emulsion | 55 ± 1 | 300 - 800 | 4 - 6 | - | * | Pure Acrylic |
| RP 55N | White Emulsion | 55 ± 1 | 350 - 750 | 6 - 8 | - | * | Pure Acrylic |
| RP F01 | White Emulsion | 50 ± 1 | 500 - 1500 | 2 - 3 | - | * | Pure Acrylic |
| RP H60 | White Emulsion | 55 ± 1 | 200 - 300 | 2 - 3 | - | * | Pure Acrylic |
| RP 4501 | Bluish White Emulsion | 45 ± 1 | 200 - 800 | 2 - 4 | 35 | * | Pure Acrylic Self-Crosslinking |
| RP 4502 | Bluish White Emulsion | 45 ± 1 | 200 - 800 | 2 - 4 | 2 | * | Pure Acrylic Self-Crosslinking |
| RP C450 | Bluish White Emulsion | 45 ± 1 | 150 - 350 | 6 - 8 | <0 | * | Pure Acrylic |



XSBR LATEX

Repolex is aqueous dispersion of carboxylated styrene-butadiene copolymer. Styrene-butadiene carboxylated latex are among the most worldwide-used elastomers, employed in a large variety of applications which significantly contribute to our standards of living. Repolex 355 is used as a stiffener for conventional coating and designed for nonwoven fabric impregnation and coating such as automotive products, needle-punched carpets. This kind of latex has good adhesion to most surfaces, high degree of stiffness, excellent water resistance and high durability.

| Product Name | Appearance | Solid Content (%) | Viscosity (cP) @20 °C | pH | Density @ 20 °C (g/cm³) | Container | Chemical Composition |
|--------------|----------------|-------------------|-----------------------|-------|-------------------------|--------------|--|
| Repolex 300 | White Emulsion | 49 - 51 | 500 - 900 | 7 - 8 | 1.01 | Barrel / IBC | Carboxylated Styrene Butadiene Rubber Emulsion |
| Repolex 305 | | 49 - 51 | 500 - 900 | 7 - 8 | 1.01 | Barrel / IBC | |
| Repolex 310 | | 49 - 51 | 500 - 800 | 7 - 8 | 1.01 | Barrel / IBC | |
| Repolex 315 | | 49 - 51 | 500 - 800 | 7 - 8 | 1.01 | Barrel / IBC | |
| Repolex 325 | | 49 - 51 | 400 - 900 | 7 - 8 | 1.01 | Barrel / IBC | |
| Repolex 355* | | 49 - 51 | 400 - 700 | 7 - 8 | 1.01 | Barrel / IBC | |

* Pilot Test



| Product Name | Appearance | Solid Content (%) | Viscosity (cP) @20 °C | pH | Density @ 20 °C (g/cm³) | Container | Chemical Composition |
|--------------|----------------|-------------------|-----------------------|-------|-------------------------|--------------|--|
| Repolex 505 | White Emulsion | 49 - 51 | 400 - 800 | 7 - 8 | 1.01 | Barrel / IBC | Carboxylated Styrene Butadiene Rubber Emulsion |
| Repolex 515 | | 49 - 51 | 500 - 900 | 7 - 8 | 1.01 | Barrel / IBC | |
| Repolex 520 | | 49 - 51 | 400 - 900 | 7 - 8 | 1.01 | Barrel / IBC | |

SPIN FINISH OIL

Spin finishes are some kinds of the lubricants which provide surface lubricating, plasticizing and static protection to man-made fibers.They are applied in fluid condition just before winding up.

Applications of spin-finish oil:

- To lubricate yarn.
- To reduce static electricity.
- To increase cohesion of the yarn.

| Product Name | Appearance | Density @ (g/cm³) | pH (%5 Solution) | Active Substance (%) | Chemical Composition | Dilution | Solubility in Water | Application |
|--------------|------------------|-------------------|------------------|----------------------|----------------------|--------------------|---------------------|--|
| SFP01 | Clear Liquid | 1.06 | 7 | 80 | Non-Ionic Emulsion | - | Soluble | Spin-Finish Oil for POY Yarn |
| SFS202 | Yellowish Liquid | - | 7 | 8 | Cationic Solid Wax | %14 in 70 °C Water | | Spin-Finish Oil for Recycled PET Fiber |
| SFB4521 | Clear Liquid | 1.01 | 7 | 60 - 70 | Non-Ionic Emulsion | %100 in Water | | Spin-Finish Oil for PET, PP, PA Fibers |



Different types of spin-finish oil:

- Lubricants: Used to control the friction of the fiber. such as: Oils, poly glycols.
- Plasticizers: Applide to make the fiber more flexible by reducing the Tg value and also reducing the brittleness. Examples: silicate, dibutyl.
- Anti-static agent: Used to reduce the static charge of fiber. such as: Lithium chloride, Butyl stearate.

Properties of spin-finish oil:

- Providing cohesion of the filament
- No oxidation in the air
- Having good wetting properties
- Not encouraging bacterial growth
- Not being carcinogenic
- Having anti-static properties

| Product Name | Appearance | Density @ (g/cm³) | pH (5% Solution) | Active Substance (%) | Chemical Composition | Dilution | Solubility in Water | Application |
|--------------|------------------------|-------------------|------------------|----------------------|----------------------|--------------|---------------------|---|
| SF3221 | Reddish liquid | 1.01 | 7 | 70 | Non-Ionic Emulsion | 10% in Water | Soluble | Carding and Spin- Finish Oil for PET and PP Fiber |
| SD3121 | Reddish liquid | 1.01 | 7 | 70 | | 10% in Water | | |
| SF4221 | Yellowish Lucid Liquid | 1.01 | 7 | 50 - 60 | | 10% in Water | | |
| SD4321 | Yellowish Lucid Liquid | 1.01 | 7 | 60 - 70 | | 10% in Water | | |
| SD4121 | Yellowish Lucid Liquid | 1.01 | 7 | 50 - 60 | | 10% in Water | | |
| SFA1050 | Clear Liquid | 1.01 | 7 | 50 - 60 | | 10% in Water | | Anti-Static Oil for PET & PP Fiber |



USAGE

DIVERSIFICATION TABLE

| Product Name | | Adhesive | | | | | | | | Paint & Coating | | | | | | Sizing | | | | | | | |
|-------------------|----------|------------------|---------------|---------------|-------------------|----------------|----------------------|----------------------|-----------------|-------------------|--------------------|---------|---------------|---------------|--------------------|-----------|-----------------|---------------------|--------------|---------------------|---------------------|--------|---------|
| | | Carton Packaging | Wood Adhesive | Tile Adhesive | Concrete Adhesive | Lable Adhesive | Tape Adhesive (BOPP) | Ineffective Adhesive | Cellophane Glue | Laminate Adhesive | White Roof Coating | Kinitex | Acrylic Paint | Plastic Paint | Semi-Plastic Paint | Thickener | Printing Binder | Carpet Back Coating | Woven Sizing | Texture Hard Sizing | Texture Soft Sizing | Filter | Curtain |
| Homopolymer Resin | RP 401 | | * | | | | | | | | | | | | | | * | * | * | | * | | |
| | RP 501 L | | * | | | | | | | | | | | | | | * | * | * | | * | * | |
| | RP 501 | | * | * | | | | | | | | | | | | | * | * | * | | * | * | |
| | RP 502 | | * | | | | | | | * | | | * | * | | | * | | | * | * | | |
| | RP 503 | | * | | | | | | | * | | | | | | | * | | | * | * | | |
| Copolymer Resin | RP 5030 | | | * | | | | | | * | | | | * | | | | | | | | * | |
| | RP 5020 | | * | | | | | | | * | | | | * | | | * | | | | | | |
| | RP 5033 | | | * | | | | | | | | * | | | | | | | | | | | * |
| | RP 5023 | | | | * | | | | * | | * | | | | | | | | | | | | |
| | RPT 30 | | | | | | | | | | | | | | * | | | | | | | | |
| | RPV 40 | | | | | | | | | * | | | | | | * | | | | * | | | |

| Product Name | | Adhesive | | | | | | | | | Paint & Coating | | | | | | Sizing | | | | | | | |
|--------------------|-------------|------------------|---------------|---------------|-------------------|----------------|----------------------|----------------------|-----------------|-------------------|--------------------|---------|---------------|---------------|--------------------|-----------|-----------------|---------------------|--------------|---------------------|---------------------|--------|---------|-------|
| | | Carton Packaging | Wood Adhesive | Tile Adhesive | Concrete Adhesive | Lable Adhesive | Tape Adhesive (BOPP) | Ineffective Adhesive | Cellophane Glue | Laminate Adhesive | White Roof Coating | Kinitex | Acrylic Paint | Plastic Paint | Semi-Plastic Paint | Thickener | Printing Binder | Carpet Back Coating | Woven Sizing | Texture Hard Sizing | Texture Soft Sizing | Filter | Curtain | Paper |
| Pure Acrylic Resin | RP 55 | | | | | * | * | | | | | | | | | | | | | | | | | |
| | RP 55N | | | | | * | * | | | | | | | | | | | | | | | | | |
| | RPF 01 | | | | | | | * | | | | | | | | | | | | | | | | |
| | RPH 60 | | | | | | | * | * | | | | | | | | | | | | | | | |
| | RP 4501 | | | | | | | | | | | | | | | | | | * | | | * | | |
| | RP 4502 | | | | | | | | | | | * | | | | | | | | * | | | | |
| | RPC 450 | | | | | | | | * | | | | | | | | | | | | | | | |
| XSBR Resin | Repolex 300 | | | | | | | | | | | | | | | | | | | * | | | | * |
| | Repolex 305 | | | | | | | | | | | | | | | | | | | * | | | | * |
| | Repolex 310 | | | | | | | | | | | | * | * | | | | | * | | | | | * |
| | Repolex 315 | | | | | | | | | | | | * | * | | | | | | | | | | |
| | Repolex 325 | | | | | | | | | | | | | | | | * | | * | | | | | |
| | Repolex 355 | | | | | | | | | | | | | | | | | | * | | | | | |
| | Repolex 505 | | | | * | | | | | | | | | | | | | | | * | | * | | |
| | Repolex 515 | | | | | | | | | | | | * | * | | | | | | * | | | | * |
| | Repolex 520 | | | | | | | | | | | | | | | | | | | * | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |



SPECIFICATION

COMPREHENSIVE TABLE

| Product Name | | Homopolymer Resin | | | | | Copolymer Resin | | | | | |
|---------------|---------------------------|-------------------|----------------|-----------------|-----------------|----------------|-----------------------------|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | RP 401 | RP 501 L | RP 501 | RP 502 | RP 503 | RP 5030 | RP 5020 | RP 5033 | RP 5023 | RPT 30 | RPV 40 |
| Sepcification | Appearance | White Paste | White Emulsion | White Paste | White Paste | White Emulsion | White Emulsion | White Emulsion | Bluish White Emulsion | Bluish White Emulsion | Bluish White Emulsion | Bluish White Emulsion |
| | Tg [°C] | 25 | 25 | 25 | 0 | 0 | 14 | 5 | 13 | >0 | - | 0 |
| | Solid Content (%) | 40 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 29 ± 1 | 39 ± 1 |
| | Viscosity (cP) @20 °C | 80000 to 100000 | 100 to 10000 | 70000 to 100000 | 70000 to 100000 | 2000 to 10000 | 2000 to 5000 | 2000 to 4000 | 3000 to 8000 | 3000 to 8000 | 100 to 200 | 100 to 300 |
| | pH | 5 - 7 | 4 - 5 | 4 - 5 | 4 - 5 | 4 - 5 | 4 - 5 | 4 - 5 | 7 - 9 | 7 - 9 | 2 - 3 | 5 - 6 |
| | MFFT | 15 | 15 | 15 | <0 | <0 | 8 | 0 | <13 | 0 | - | <0 |
| | Container: Barrel (200Kg) | * | * | * | * | * | * | * | * | * | * | * |
| | Chemical Composition | PVAc Homopolymer | | | | | Vinyl Acrylic by 3 Monomers | Vinyl Acrylic by 2 Monomers | Styrene Acrylic | Styrene Acrylic | Pure Acrylic | Viny Acrylic |

SPECIFICATION

COMPREHENSIVE TABLE

| Pure Acrylic Resin | | | | | | | XSBR Latex | | | | | | | |
|--------------------|----------------|----------------|----------------|-----------------------|-----------------------|-----------------------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| RP 55 | RP 55N | RPF 01 | RPH 60 | RP 4501 | RP 4502 | RPC 450 | Repolex 300 | Repolex 305 | Repolex 310 | Repolex 315 | Repolex 325 | Repolex 505 | Repolex 515 | Repolex 520 |
| White Emulsion | White Emulsion | White Emulsion | White Emulsion | Bluish White Emulsion | Bluish White Emulsion | Bluish White Emulsion | White Emulsion | White Emulsion | White Emulsion | White Emulsion | White Emulsion | White Emulsion | White Emulsion | White Emulsion |
| -32 | -40 | -30 | -40 | 38 | 5 | 0 | | | | | | | | |
| 55 ± 1 | 55 ± 1 | 50 ± 1 | 55 ± 1 | 45 ± 1 | 45 ± 1 | 45 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 | 50 ± 1 |
| 300 to 800 | 350 to 750 | 500 to 1500 | 200 to 300 | 200 to 800 | 200 to 800 | 150 to 350 | 500 to 900 | 500 to 900 | 500 to 800 | 500 to 800 | 400 to 900 | 400 to 800 | 500 to 900 | 400 to 900 |
| 4 - 5 | 6 - 8 | 2 - 3 | 2 - 3 | 2 - 4 | 2 - 4 | 6 - 8 | 7 - 8 | 7 - 8 | 7 - 8 | 7 - 8 | 7 - 8 | 7 - 8 | 7 - 8 | 7 - 8 |
| - | - | - | - | 35 | 2 | <0 | - | - | - | - | - | - | - | - |
| * | * | * | * | * | * | * | */IBC | */IBC | */IBC | */IBC | */IBC | */IBC | */IBC | */IBC |
| Pure Acrylic | | | | | | | Carboxylated Styrene Butadiene Rubber Emulsion | | | | | | | |



“BCF YARN”
Melt Spinning

“POLYESTER,
POLYPROPYLENE,
POLYAMID”

www.zarifmosavar.com



ABOUT US

Zarif-Mosavar industrial group initiated its activities in Boroujen industrial zone in 1984.

The group head office is located in Isfahan. staple fiber and yarn production units were also established together along with other production units in the same year.

Final product`s quality of Zarif-Mosavar indicates high quality range of applied raw material in the process of our internal production. due to continuity of successful activities in our group and because of popularity and credibility of the brand, various certificates & awards have been obtained from national and international institutes. These certificates would easily prove the point that the quality item has the highest priority for Zarif-Mosavar group in all the required levels.

Various modern production lines and facilities, advanced QC laboratories along with specialist experts have come together for Zarif-Mosavar group to manufacture and deliver best products to our customers.

MELT SPINNING CO.



PRODUCTION LINES

Zarif-Mosavar Co. manufactures its products by applying latest technology and modern production facilities which are listed as below:

- Five production lines for different polyester fibers, recycled polyester, polyamide, and polypropylene by daily capacity of 100 tons, and a line for washing crushed polyester material.
- Three production lines for BCF Yarn, a heat set-freeze and cabling yarn with daily capacity of 20 tons.
- Production line of plastic materials packing with daily capacity of 3 tons .
- Production line of recycling granules with the capacity of 6 tons per day.
- QC laboratory with all the required equipments for testing yarn and fiber products.

It should be considered that all the existing production and laboratory equipments are made in well-known European companies from Germany, France, England and Italy.

LATEST
TECHNOLOGY
MODERN
EQUIPMENT



PRODUCTS

FIBERS & BCF YARNS

In the field of Melt spinning, Zarif-Mosavar products are divided into main groups of fibers & BCF Yarns.

Artificial fibers are including Polyester (Virgin and Recycled), Polypropylene and Polyamid fibers along with BCF Yarns (Heatset, Freeze and Cabling).

| Product Group | Material | Specification | | Fineness | Ref.Works | Color |
|---------------|---------------------------|---------------|-----------------|--------------------------|-------------------------|--------------------|
| Fiber | Polyester | Virgin | Solid | >3 | According To Order | According To Order |
| Fiber | Polyester | Recycle | Solid | >4 | According To Order | According To Order |
| Fiber | Polyester | Virgin | Hallow R | >6 | According To Order | According To Order |
| Fiber | Polyester | Recycle | Hallow R | >6 | According To Order | According To Order |
| Fiber | Polypropylene | Virgin | Solid | >3 | According To Order | According To Order |
| Fiber | Polypropylene | Virgin | Concrete | >3 | According To Order | According To Order |
| Fiber | Polyester | Recycle | Concrete | >4 | According To Order | According To Order |
| Fiber | Polyamide | Virgin | Solid | >6 | According To Order | According To Order |
| Fiber | Polypropylene | Virgin | Hydrophilic | >2 | According To Order | According To Order |
| Fiber | Polyester | R.V | Solid | >4 | According To Order | According To Order |
| Fiber | Polyester | Recycle | Melange | >4 | According To Order | According To Order |
| Fiber | Polypropylene | Virgin | High Tenacity | >3 | According To Order | According To Order |
| Yarn | Polypropylene | Virgin | Heatset- Freeze | >1200 | Two Folded | According To Order |
| Yarn | Polypropylene | Virgin | Heatset- Freeze | >600 | Single Folded | According To Order |
| Yarn | Polyamide | Virgin | Heatset- Freeze | >700 | Single Folded | According To Order |
| Yarn | Polyester | Virgin | Heatset- Freeze | >1100 | Single Folded | According To Order |
| Yarn | Polyester | Virgin | Heatset- Freeze | >2200 | Two Folded | According To Order |
| Granule | Polyester | Pure | Recycle | - | MP: 220 to 240 | According To Order |
| Granule | Polypropylene . Polyester | Mixed | Recycle | - | - | According To Order |
| Granule | Polypropylene | Mixed | Recycle | - | MFI from 5 to 25 | According To Order |
| Plastic | Polyethylene | - | Virgin | * Single & Double Folded | Thickness 50-200 Micron | Transparent |

* Width 35-175

MELT SPINNING CO.



COMPETITIVE ADVANTAGES

Zarif Mosavar group in melt spinning field is supported by the ownership of Regal Petrochemical and Tis Masterbatch companies as its subsidiaries and obviously there is no specific limitation in providing of raw materials.

MATERIALS
PRIMARY
HIGH
QUALITY
PRODUCTS



TECHNICAL SPECIFICATIONS

Some technical specifications of our fiber products are enlisted as below:

| Denier 3 Polyester Fibers | | | |
|---------------------------|------------------------------------|-------------------|---------------------|
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 3 | gf / den | ISO 1973 |
| Elongation | 50 ± 10 | % | ISO 1973 |
| Fineness | 3 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | +1 to +3 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |
| Crimp Number | 50 ± 10 | Waves / Decimeter | DIN 53840 - 1 |

| Denier 6 Polyester Fibers | | | |
|---------------------------|------------------------------------|-------------------|---------------------|
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 3 | gf / den | ISO 1973 |
| Elongation | 55 ± 15 | % | ISO 1973 |
| Fineness | 6 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | +1 to +3 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |
| Crimp Number | 35 ± 5 | Waves / Decimeter | DIN 53840 - 1 |

| Denier 3 / 6 Polypropylene Fibers (High Tenacity) | | | |
|---|------------------------------------|----------------|---------------------|
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 3 | gf / den | ISO 1973 |
| Elongation | 55 ± 15 | % | ISO 1973 |
| Fineness | 6 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | Max. 5 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |



| Denier 15 Polyester Fibers | | | |
|----------------------------|------------------------------------|-------------------|---------------------|
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 3 | gf / den | ISO 1973 |
| Elongation | Max. 75 | % | ISO 1973 |
| Fineness | 15 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | Max. 1 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |
| Crimp Number | 26 ± 6 | Waves / Decimeter | DIN 53840 - 1 |
| Denier 17 Polyester Fibers | | | |
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 2.5 | gf / den | ISO 1973 |
| Elongation | Max. 75 | % | ISO 1973 |
| Fineness | 17 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | Min. 1 Max. 3 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |
| Crimp Number | 20 - 25 | Waves / Decimeter | DIN 53840 - 1 |

| Denier 15 Polypropylene Fibers | | | |
|--|------------------------------------|-------------------|---------------------|
| Product Specification | Value | Measuring Unit | Test Reference |
| Length | 12,18,51,64,75,90,100,110,130 ± 5% | mm | ISO 6989 |
| Oil Pick up | 0.2 ± 0.05 | % | ASTM D2257 |
| Tenacity | Min. 30 | gf / den | ISO 1973 |
| Elongation | Max. 100 | % | ISO 1973 |
| Fineness | 15 ±10% | Denier | ISO 1973 |
| Humidity | Max. 1 | % | ASTM D2257 |
| Shrinkage | Max. 5 | % | ASTM D4974 |
| Color | According to Sample | - | According to Sample |
| Crimp Number | 23 ± 4 | Waves / Decimeter | DIN 53840 - 1 |
| Raw White 35T Diameter Concrete Fibers | | | |
| Product Specification | Value | Measuring Unit | Test Reference |
| Length of Fibers | 6 ± 1.5 . 12 ± 1.5 . 18 ± 1.5 | mm | ISO 6989 |
| Extraction Oil | 0.5 ± 0.05 | % | PL-OPA0 |
| Diameter | 35 ± 1.7 | Micron | Domestic Laboratory |
| Tearing Strength | Min: 30 Max. 40 | Centinewton / mm2 | ASTM D3822 |
| Elongation of Length | Max: 60 | % | ASTM D3822 |
| Humidity | Max: 1 | % | PL-MERO |
| External Particles | Without External Particles | - | According to Sample |
| Dispersion | Fully Dispersed in Water | - | Domestic Method |

“THE
VARIETY OF
NATURE'S
COLOURS”
Textile Industry

“TIS
MASTERBATCH”
Textile & Plastic Industry

www.tismasterbatch.com



ABOUT US

TIS Company (TISCO), as one of the subsidiaries of Zarif Mosavar Industrial Group, is a high technology enterprise specialized in researching, developing, processing and producing different kinds of masterbatches, particularly in the field of fiber and textile applications. TISCO was established in 1999 and its preliminary purpose was to produce required masterbatches for the fiber production lines of Zarif-Mosavar Industrial Group.

Today, TISCO is pleased to satisfy its domestic and international customers by offering solutions for technical issues according to related standards and customized colors too. Our experience gained over the years could enable us to produce high quality masterbatches with different polymer bases including Polyethylene (PE), Polypropylene (PP), Polyester (PET), and Polyamide (PA) with various applications such as fibers, woven & nonwoven bags, polymer pipes, films, sheets and injection moulding.

TIS MASTERBATCH CO.



PRODUCT'S INFO

TISCO has classified its products into four categories as follow:

- Colour Masterbatch
- Black Masterbatch
- White Masterbatch
- Additive Masterbatch

TEXTILE
& PLASTIC
INDUSTRY



COLOR MASTERBATCH

TIS Company (TISCO) has virtually simulated ten thousands of colours in different polymers of the market. We have established a long-lasting leading position in the supply market of colour concentrates. Due to the existence of convenient facilities in color simulating and fully equipped fiber laboratories, we are able to match the colors as the customer needs . Our technological centres are equipped with research and quality control laboratories to ensure high quality products. The processing is done on a single & twin screw extruder machinery (made by well-known European manufacturers) which can lead to high quality products.

Our color masterbatch has high concentration of pigment with bright colors, excellent dispersion, good heat resistance and heat stability performance, easy coloring, environment protection and convenient operation. All these together enable us to produce high quality masterbatches which are being used in fiber, PP woven & non-woven bags, Injection Moulding, Blow Moulding, Extrusion Moulding, Blown Film and others.

| Colorful Masterbatch | | | | | | | |
|----------------------|-------------|---------------|----------------|-------------------------------------|---------------|---------------------------|--------------------------|
| Code | Colour | Polymer Based | Heat Stability | Application | Melting Point | Density g/cm ³ | Carrier MFI |
| 26004 | Orange | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.33±0.05 | 18g/10min (2.16kg,190°c) |
| 26010 | Pink | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.2±0.05 | 18g/10min (2.16kg,190°c) |
| 27000 | Red | PE | 240°c | Extrusion, PP Woven Bag, Blown Film | 131±1°c | 1.17±0.05 | 18g/10min (2.16kg,190°c) |
| 27004 | Red | PE | 240°c | Extrusion, PP Woven Bag, Blown Film | 131±1°c | 1.12±0.05 | 18g/10min (2.16kg,190°c) |
| 27008 | Red | PE | 240°c | PP Fiber, Blown Film | 126±1°c | 1.08±0.05 | 20g/10min (2.16kg,190°c) |
| 27012 | Dark Red | PE | 240°c | PP Fiber, Blown Film | 126±1°c | 1.09±0.05 | 20g/10min (2.16kg,190°c) |
| 27014 | Purple | PE | 240°c | PP Fiber, Blown Film | 126±1°c | 1.07±0.05 | 20g/10min (2.16kg,190°c) |
| 28000 | Gray | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.3±0.05 | 18g/10min (2.16kg,190°c) |
| 28002 | Gray | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.19±0.05 | 18g/10min (2.16kg,190°c) |
| 41000 | Cream | PP | 280°c | PP BCF Yarn | 156±1°c | 1.3±0.05 | 25g/10min (2.16kg,230°c) |
| 41002 | Cream | PP | 280°c | PP BCF Yarn | 156±1°c | 1.29±0.05 | 25g/10min (2.16kg,230°c) |
| 21002 | Beige | PE | 280°c | Extrusion, PP Woven Bag, Blown Film | 131±1°c | 1.44±0.05 | 18g/10min (2.16kg,190°c) |
| 21004 | Beige | PE | 280°c | Extrusion, PP Woven Bag, Blown Film | 131±1°c | 1.44±0.05 | 18g/10min (2.16kg,190°c) |
| 22018 | Chocolate | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.33±0.05 | 18g/10min (2.16kg,190°c) |
| 22020 | Brown | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.3±0.05 | 18g/10min (2.16kg,190°c) |
| 22022 | Light Brown | PE | 280°c | PP Fiber, Blown Film | 131±1°c | 1.13±0.05 | 18g/10min (2.16kg,190°c) |

| Colorful Masterbatch | | | | | | | |
|----------------------|---------------|---------------|----------------|-------------------------------------|---------------|---------------|--------------------------|
| Code | Colour | Polymer Based | Heat Stability | Application | Melting Point | Density g/cm³ | Carrier MFI |
| 23002 | Blue | PE | 280°c | Extrusion, PP Woven Bag, Blown Film | 131±1°c | 1.13±0.05 | 18g/10min (2.16kg,190°c) |
| 23004 | Blue | PE | 280°c | Extrusion, Pipe | 131±1°c | 1.17±0.05 | 4g/10min (2.16kg,190°c) |
| 23008 | Dark Blue | PE | 280°c | PP Fiber, Blown Film | 126±1°c | 1.1±0.05 | 20g/10min (2.16kg,190°c) |
| 24000 | Green | PE | 280°c | Pipe, Extrusion, Blown Film | 131±1°c | 1.25±0.05 | 18g/10min (2.16kg,190°c) |
| 24006 | Green Jade | PE | 280°c | PP Fiber, Blown Film | 126±1°c | 1.18±0.05 | 20g/10min (2.16kg,190°c) |
| 25000 | Bright Purple | PE | 240°c | PP Fiber, Blown Film | 131±1°c | 1.22±0.05 | 18g/10min (2.16kg,190°c) |
| 61018 | Cream | PET | 300°c | PET Fiber | 252±1°c | 1.62±0.05 | - |
| 62006 | Chocolate | PET | 300°c | PET Fiber | 252±1°c | 1.62±0.05 | - |
| 62018 | Walnut | PET | 300°c | PET Fiber | 252±1°c | 1.62±0.05 | - |
| 62024 | Dark Walnut | PET | 300°c | PET Fiber | 252±1°c | 1.62±0.05 | - |
| 63004 | Dark Blue | PET | 300°c | PET Fiber | 252±1°c | 1.39±0.05 | - |
| 64006 | Green | PET | 300°c | PET Fiber, POY & FDY Yarn | 252±1°c | 1.48±0.05 | - |
| 65000 | Bright Purple | PET | 270°c | PET Fiber | 252±1°c | 1.4±0.05 | - |
| 66014 | Pink | PET | 270°c | PET Fiber | 252±1°c | 1.49±0.05 | - |
| 67014 | Red | PET | 280°c | PET Fiber | 252±1°c | 1.35±0.05 | - |
| 67016 | Red | PET | 270°c | PET Fiber | 252±1°c | 1.38±0.05 | - |

TIS MASTERBATCH CO.



| Colorful Masterbatch | | | | | | | |
|----------------------|---------------|---------------|----------------|---------------------------|---------------|---------------|--------------------------|
| Code | Colour | Polymer Based | Heat Stability | Application | Melting Point | Density g/cm³ | Carrier MFI |
| 68002 | Gray | PET | 300°c | PET Fiber, POY & FDY Yarn | 252±1°c | 1.43±0.05 | - |
| 48002 | Silver | PE | 280°c | PP Fiber, Blown Film | 156±1°c | 1.22±0.05 | 25g/10min (2.16kg,230°c) |
| 42000 | Chocolate | PP | 280°c | PP BCF Yarn | 156±1°c | 1.3±0.05 | 25g/10min (2.16kg,230°c) |
| 42004 | Brown | PP | 260°c | PP BCF Yarn | 156±1°c | 1.19±0.05 | 25g/10min (2.16kg,230°c) |
| 42006 | Chocolate | PP | 260°c | PP BCF Yarn | 156±1°c | 1.19±0.05 | 25g/10min (2.16kg,230°c) |
| 43000 | Dark Blue | PP | 260°c | PP BCF Yarn | 156±1°c | 1.2±0.05 | 25g/10min (2.16kg,230°c) |
| 43002 | Blue | PP | 260°c | PP BCF Yarn | 156±1°c | 1.19±0.05 | 25g/10min (2.16kg,230°c) |
| 44000 | Green | PP | 260°c | PP BCF Yarn | 156±1°c | 1.18±0.05 | 25g/10min (2.16kg,230°c) |
| 45000 | Purple | PP | 250°c | PP BCF Yarn | 156±1°c | 1.13±0.05 | 25g/10min (2.16kg,230°c) |
| 45004 | Bright Purple | PP | 280°c | PP BCF Yarn | 156±1°c | 1.18±0.05 | 25g/10min (2.16kg,230°c) |
| 46000 | Bright Brown | PP | 260°c | PP BCF Yarn | 156±1°c | 1.17±0.05 | 25g/10min (2.16kg,230°c) |
| 46002 | Pink | PP | 260°c | PP BCF Yarn | 156±1°c | 1.17±0.05 | 25g/10min (2.16kg,230°c) |
| 47000 | Red | PP | 250°c | PP BCF Yarn | 156±1°c | 1.12±0.05 | 25g/10min (2.16kg,230°c) |
| 48000 | Bright Gray | PP | 280°c | PP BCF Yarn | 156±1°c | 1.2±0.05 | 25g/10min (2.16kg,230°c) |



BLACK MASTERBATCH



TIS Company (TISCO) offers various grades of black masterbatches in different polymer types of Black Carbon which is based upon the customer requirements.

Our black carbon, (made by well-known manufacturers), consist of a wide range of pigment systems varying from large to small particle sizes. The jetness and tinting strength of this pigment is very high.

Our black Masterbatch would be applied in a wide variety of polymer bases such as polyolefins, polyester, polyamide and etc.

Some special items such as modern testing machines, high quality of Carbon Black, excellent dispersion, good heat resistance and heat stability performance along with our experts and specialists guarantee the final quality of black masterbatches which is being used in Fiber & Yarn, Pipes, Bags, Extrusion, Injection, Blow Film and others.

| Black Masterbatch | | | | | | | |
|-------------------|---------------|----------------|--|---------------|---------------------------------|---------------|--------------------------|
| Code | Polymer Based | Heat Stability | Application | Melting Point | Average of Largest Agglomerates | Density g/cm³ | Carrier MFI |
| 10514 | PE | 280°c | Pipe, Bag, Injection, Blown Film, Extrusion | 131±1°c | (20 -25)µm | 1.21±0.05 | 18g/10min (2.16kg,190°c) |
| 20500 | PE | 280°c | PP Fiber, BCF Yarn | 131±1°c | (10 -15)µm | 1±0.05 | 18g/10min (2.16kg,190°c) |
| 30500 | PP | 260°c | PP Fiber, BCF Yarn | 156±1°c | (15 -20)µm | 1±0.05 | 25g/10min (2.16kg,230°c) |
| 60500 | PET | 300°c | PET Fiber | 252±1°c | (15 -20)µm | 1.33±0.05 | - |
| 60506 | PET | 300°c | PET Fiber | 230±1°c | (10 -15)µm | 1.31±0.05 | - |
| 60508 | PET | 300°c | PET Fiber | 230±1°c | (15 -20)µm | 1.27±0.05 | - |
| 60512 | PET PBT | 300°c | Deep blue tone black Maserbatch for fine PET fiber | 250±1°c | (10 -15)µm | 1.3±0.05 | - |
| 50510 | PET PBT | 300°c | PET Fiber | 250±1°c | (15 -20)µm | 1.27±0.05 | - |



WHITE MASTERBATCH

TIS Company (TISCO) offers a wide range of white masterbatches with excellent dispersion of high quality Rutile Titanium Dioxide (imported from well-known manufacturers), which would act as both carrier and additive types.

This Masterbatch provides whiteness, brightness and opacity for the final product.

Our white masterbatch types are available in a number of carrier resins such as polyolefins, polyester, polyamide and etc.

They are designed to be used in woven & nonwoven bags, pipes, extrusion, injection and blow molding applications.

We are capable of producing the wide range of white masterbatch upon customer`s requirements.



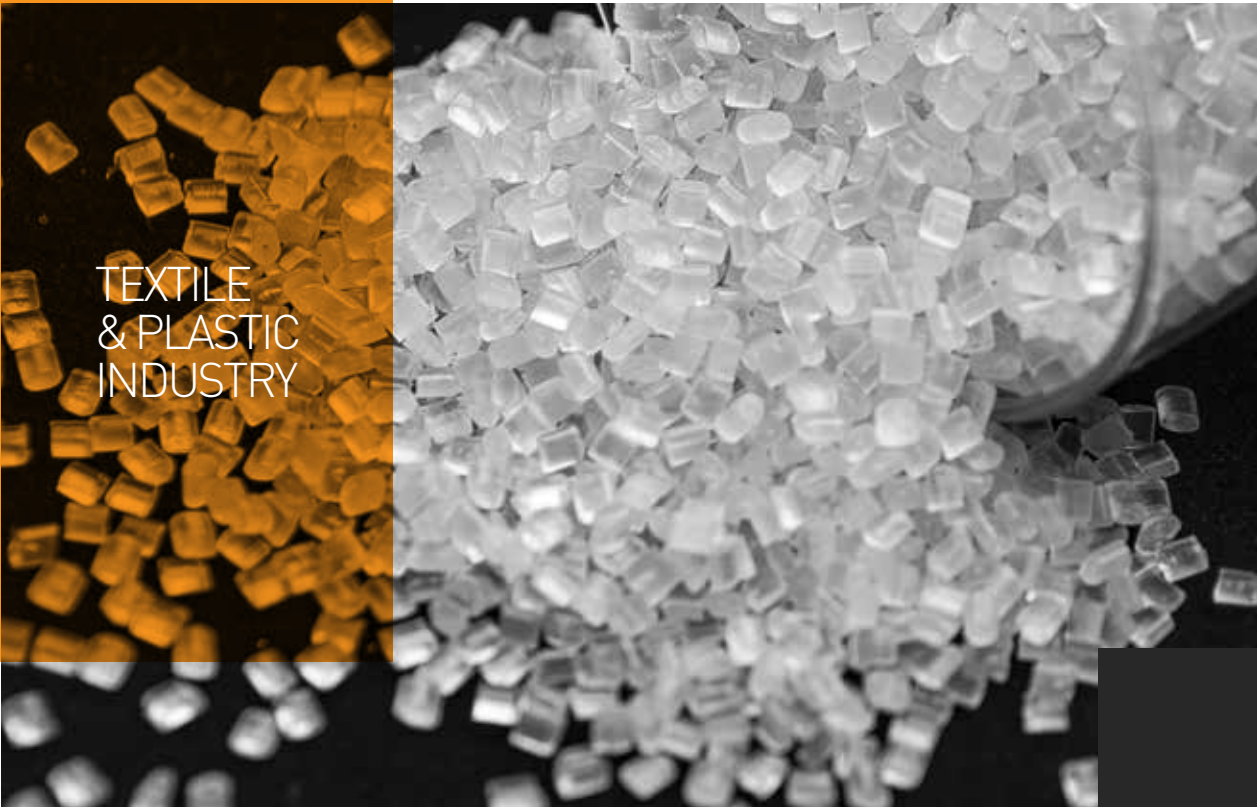
| White Masterbatch | | | | | | | |
|-------------------|---------------|----------------|---|---------------|---------------------------------|---------------|--------------------------|
| Code | Polymer Based | Heat Stability | Application | Melting Point | Average of Largest Agglomerates | Density g/cm³ | Carrier MFI |
| 10002 | PE | 280°c | Pipe, Extrusion Blown Film | 131±1°c | (10 -15)µm | 1.21±0.05 | 18g/10min (2.16kg,190°c) |
| 10004 | PE | 280°c | Pipe, Extrusion Blown Film | 131±1°c | (10 -15)µm | 1.21±0.05 | 18g/10min (2.16kg,190°c) |
| 10006 | PE | 280°c | Extrusion, PP Woven Bag,Injection, Blown Film | 131±1°c | (15 -20)µm | 1.62±0.05 | 18g/10min (2.16kg,190°c) |
| 10008 | PE | 280°c | Extrusion, PP Woven Bag,Injection, Blown Film | 131±1°c | (15 -20)µm | 1.65±0.05 | 18g/10min (2.16kg,190°c) |
| 30000 | PP | 280°c | Pipe, Bag, Injection, Blown Film, Extrusion | 157±1°c | (15 -20)µm | 1.58±0.05 | 25g/10min (2.16kg,230°c) |
| 30002 | PP | 280°c | Pipe, Extrusion, Blown Film, Spunband | 157±1°c | (10 -15)µm | 1.22±0.05 | 25g/10min (2.16kg,230°c) |
| 50000 | PET | 300°c | Fiber, Yarn | 252±1°c | (10 -15)µm | 1.52±0.05 | - |



ADDITIVE MASTERBATCH

TIS Company (TISCO) manufactures a wide range of masterbatches containing special additives to improve and modify the properties of polymers. Our additives are available in different polymer bases such as PE and PP. TISCO has categorized its Additive Masterbatch into different types such as Antioxidants, UV Stabilizers and Polymer Process Aids (PPA).

- Antioxidants: The use of Antioxidants in polymer processing can offer better stabilization of the polymer during processing and also prolong its useful life for the final application, so this additive can provide stabilized process in PP fiber production when exact control of the MFI is essential to ensure high quality and trouble-free production. We help you to select the correct package of Antioxidants which would enhance long term color and thermal stability.
- UV Stabilizers: Ultra Violet radiation is destructive to polymeric materials, so the choice of an appropriate and efficient UV package is critical to ensure good performance and long life of the polymer.
- Polymer Process Aids (PPA): PPA masterbatches is specifically designed to enhance extrusion ability of plastics (PE Films, pipes, tubes...) which would lead to productivity and quality improvement.
- Other additives.



| Additive Masterbatch | | | | | | |
|----------------------|---|----------------|---|---------------|---------------|--------------------------|
| Code | Polymer Based | Heat Stability | Application | Melting Point | Density g/cm³ | Carrier MFI |
| 29910 | Polyethylene Based Antioxidant Masterbatch | 280°c | Pipe, Extrusion | 132±1°c | 1.05±0.05 | 4g/10min (2.16kg,190°c) |
| 29930 | Polyethylene Based UV Stabilizer Masterbatch | 280°c | Extrusion, PP Woven Bag, PP Fiber, Blown Film | 131±1°c | 1.05±0.05 | 18g/10min (2.16kg,190°c) |
| 39930 | Polypropylene Based UV Stabilizer Masterbatch | 300°c | Extrusion, PP Woven Bag, PP Fiber, Blown Film | 157±1°c | 1.05±0.05 | 15g/10min (2.16kg,230°c) |

TIS MASTERBATCH CO.



LABORATORY OF MASTERBATCH

Laboratory and Semi-Industrial (Pilot) Units:

The masterbatch quality control tests are being done according to international and national test methods. Through current equipped laboratory and continuous quality control, the production process of our masterbatches is invariable and confronted to minimum rates of wastage or loss. Whole testing process from raw materials arrival to final products are being done through Tis company laboratory.

The most important tests, which could be done in this laboratory, are density checking, masterbatch oxidation stability test (OIT), measurement of pigments dispersion by compressed nets (Filter test), Microscopic studying of wet pigments, meshing, optical and thermal stability tests.

There is possibility to simulate customer requests for various colors by computer software in Tis laboratory.

Also we are able to produce masterbatches in Semi-Industrial scale in order to supply specific customer orders for yarn and fiber, then required masterbatches would be checked by computerized simulation process for color matching control in laboratory which would lead to semi-industrial production of masterbatches and afterward would be transformed to BCF, POY yarns or CF fibers through this semi-industrial unit due to deliver the right colors to the customers.

TEXTILE
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INDUSTRY



ABOUT US

Zarif Mosavar Industrial Production Group (ZMIPG) with its wall to wall carpet production line was founded by Mr. Ali Mohammad Rejali and Mr. Seyed Mostafa Tabatabaei at Boroujen Industrial Zone in 1984. The Company uses the latest textile technologies as well as the most skilled workforce of the region which led to rapid development of the factory due to the great satisfaction and gratitude of consumers. It would be mentioned that our annual production capacity is 50 million m² which is achieved in 93000 m² production area from the total plant area of 165000 m², so it makes opportunity to nominate Zarif Mosavar industrial production group as one of the biggest manufacturers of wall to wall carpet, nonwoven, fibers and their raw materials in the Middle East.

“AUTOMOTIVE”
NONWOVENS & CARPETS

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NON WOVEDS CO.



LIST OF THE PRODUCTS

- Wall to wall carpet (needle felt and tufted) for residential and industrial purposes
- Non-woven needle punched layers for automotive industry

Honors & Certificates

- Paris Quality Award obtained in 1998
- Exemplary exporter in 1997, 2005 and 2007
- Honored to receive the 1st reward of selected Entrepreneurs in the 3rd Sheikh-Bahaei Entrepreneurship Festival
- Honored to receive the 1st reward in the 1st National Iranian Brands
- The symbol of success in consumers' confidence & satisfaction attraction
- ISO 9001 and ISO TS certificates of standard

IS
THE
LARGEST
MANUFACTURER
OF
AUTOMOTIVE
CARPETS
IN IRAN

Zarif Mosavar



AUTOMOTIVE NONWOVENS & CARPETS

Zarif-Mosavar Company is the largest manufacturer of automotive carpets and nonwovens in Iran by the market share of 85% in supply of Iranian car manufacturers products which are producing under the licenses of Kia Motors, Peugeot and Renault by the capacity of 10 million m2 annually. Zarif-Mosavar company, as the manufacturer of Needle-punched nonwovens and carpets, is capable to supply the products from 100 g/m² to 1500 g/m² in all colors for the applications as below:

- Headliners.
- Floor and Trunk carpet.
- Parcel shelf.
- Wheel arc carpet.
- Other needle punched Nonwovens and carpets as the customer request.



| Product code | Application | Colour | Weight g / m ² | Thickness | Process | * | Fiber Type | Company |
|--------------|--------------------------|--------|---------------------------|-----------|--------------------------|-----|------------|---------------|
| AK4 | Floor Carpet | Gray | 660 | 5.3 ± 1.0 | Carding Velour | No | Polyester | Kia |
| AK23 | Headliners | Gray | 235 | 2.7 ± 0.3 | Carding Velour | No | | Kia . Peugeot |
| AK24 | Headliners | Beige | 235 | 2.7 ± 0.3 | Carding Velour | No | | Peugeot |
| AK26L | Floor Carpet | Black | 750 | 5.2 ± 0.5 | Carding Velour Finishing | Yes | | Peugeot |
| AK30 | Parcel shelf | Black | 250 | 5 ± 0.5 | Carding | No | | Peugeot |
| AK31 | Parcel shelf | Black | 100 | 3.3 ± 0.3 | Carding Calender | No | | Peugeot |
| AK41 | Parcel shelf | Black | 420 | 2.5 ± 0.5 | Carding Finishing | Yes | | Peugeot |
| AK42L | Trunk Trim | Black | 280 | 2.5 ± 0.3 | Carding Finishing | Yes | | Peugeot |
| AK59 | Floor Carpet | Gray | 400 | 3.4 ± 0.4 | Carding | No | | Kia |
| AK54 | Floor Carpet | Gray | 650 | 3 ± 0.5 | Carding Finishing | Yes | | Kia |
| AK60L | Ribbed Floor Carpet | Gray | 650 | 3.6 ± 0.6 | Carding Finishing | Yes | | Peugeot |
| AK63L | Ribbed Floor Carpet | Beige | 650 | 3.6 ± 0.6 | Carding Finishing | Yes | | Peugeot |
| AK70 | Floor Carpet | Gray | 500 | 3.5 ± 0.5 | Carding | No | | Kia |
| AK72 | Floor Carpet | Gray | 750 | 5.5 ± 0.5 | Carding Velour Finishing | Yes | | Kia |
| AK90 | Floor Carpet | Black | 920 | 4.5 ± 0.5 | Carding Finishing | Yes | | Renault |
| AK91 | Wheel Arc Carpet | Black | 800 | 3.5 ± 0.5 | Carding Finishing | Yes | | Renault |
| AK92 | Trunk Trim | Black | 1100 | 5 ± 0.5 | Carding Finishing | Yes | | Renault |
| AK95 | Parcel Shelf | Beige | 230 | 2.7 ± 0.3 | Carding Velour Calender | Yes | | Peugeot |
| AK96 | Headliners | Gray | 230 | 2.7 ± 0.3 | Carding Velour Calender | Yes | | Peugeot |
| AK11 | Parcel Shelf | Black | 350 | 2.6 ± 0.5 | Carding Velour | No | | Peugeot |
| ZA603 | Parcel Shelf | Gray | 270 | 2.6 ± 0.5 | Carding | No | | Kia |
| ZA608 | Parcel Shelf | Beige | 330 | 2.6 ± 0.5 | Carding | No | | Peugeot |
| ZA612 | Parcel Shelf | Gray | 280 | 3.2 ± 0.4 | Carding | No | | Kia |
| ZA616 | Parcel Shelf | Beige | 235 | 2.6 ± 0.5 | Carding | No | | Peugeot |
| AK100 | Headliners Stitch Bonded | Gray | 230 | 5.3 ± 1.0 | Carding Velour | No | | Renault |

* Formability



ABOUT US

ALL THE WAY WITH YOU

Geotextiles are permeable fabrics when are being used in association with soil, have the ability to separate, filter, reinforce, protect or drain.

Geotextiles have a wide range of applications and are currently applied to benefit many civil engineering applications including roads, airfields, railroads, embankments, retaining structures, reservoirs, canals, dams, bank protection and coastal engineering.

Since polypropylene geotextiles perform well when exposed to water and other inorganic compounds, they are used for some applications such as pond liners, bank weed control, liners for garden fountain systems, filtration, dividers in ponds, pile wraps, lagoon liners, turbidity curtains and etc. Most of these applications are not technical in comparison to a beach reclamation system or a retaining wall, but they are practical and cost-efficient applications of geosynthetics, and their uses are growing.

“GEOSYNTHETIC”
Permeable Fabrics

www.zarifmosavar.com



APPLICATIONS OF GEOSYNTHETICS

REINFORCEMENT:

Geosynthetics are installed beneath or between soil layers to improve the mechanical properties by absorbing the tensile forces and minimising deformation. Geotextiles are used in some applications such as retaining structures according to the principles of «reinforced soil», slope stabilization or for foundation reinforcement of embankment dams where the sub-soil exhibits poor bearing capacity. The use of geosynthetics for reinforcement applications minimises expensive constructive measures and can reduce soil intermixing by eliminating the need for additional soil layers.

SEPARATION:

As a separation layer, nonwoven geotextiles are used to prevent adjacent soil layers or filling materials from intermixing.

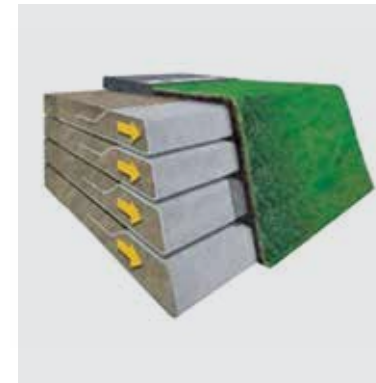
Nonwoven geotextiles that exhibit a high elongation capacity are the chosen materials in most applications. The selection of a suitable product is dependent upon the base course of grain size and the expected operational loads.

The main use of separation nonwovens are road and railway construction, hydraulic, landfill engineering and sport fields.

DRAINAGE:

In the EN ISO standards, the drainage function is defined as «The collecting & transporting of precipitation, ground water and/or other fluids in the plane of the geotextile». Hydraulic properties are decisive for the overall performance of the entire construction, besides the water flow capacity in the plane of the geotextile would be the most important. The hydraulic properties of Zarif mosavar`s Geotextiles are designed to drain excess water of the construction, not only by passing through the Geotextile when are used for filtration, but also by flowing in the plane of the geotextile would lead it away from the construction.

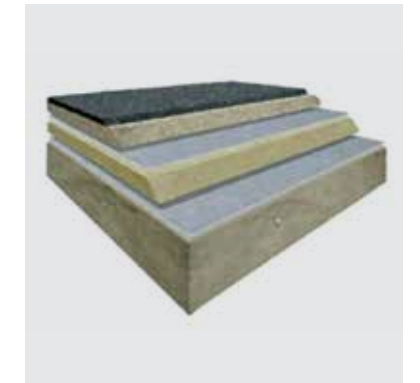
The use of a drainage geotextile ensures ongoing drainage of fluids with minimum pressure loss.



REINFORCEMENT



SEPARATION



DRAINAGE



APPLICATIONS OF GEOSYNTHETICS

FILTRATION:

In filtration applications such as hydraulic engineering and drainage systems, nonwoven geotextiles are used to retain soil particles while allowing the passage of liquids through the filter media. There are two aspects of filtration that should be evaluated during the designing process. The mechanical filter efficiency (does the fabric have sufficient soil retention capacity) and the hydraulic filter efficiency (does the water discharge without rebuilding of hydraulic pressure). By mineral filter layers, the geotextile thickness directly benefits the long-term mechanical and hydraulic efficiency of the filter.

CONTAINMENT:

Geosynthetic containment applications are those in which a textile in the form of a tube, bag or container is used to encapsulate a construction material, such as soil or sand. They perform project-specific functions such as protection, filtration and separation. Nonwoven geotextiles are the primary products for these applications because of their high elongation capacity.

PROTECTION:

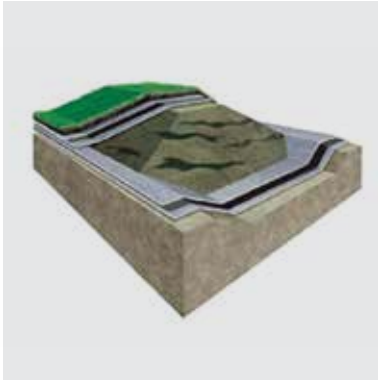
Geomembranes, structures, coated materials as well as related construction elements must often be protected from potential mechanical damages. Without suitable protection, damage may be occurred from sharp edged objects such as stones due to the unevenness of the sub-soil or even by the cover material. Mechanically bonded needle-punched nonwovens manufactured from polypropylene (PP) or polyester (PET) fibers, are commonly used for protection layers. Specially for nonwoven geotextiles, the protection function is directly related to the thickness and mass per unit area, as a heavier and thicker nonwoven is more likely to provide better protection.

EROSION CONTROL:

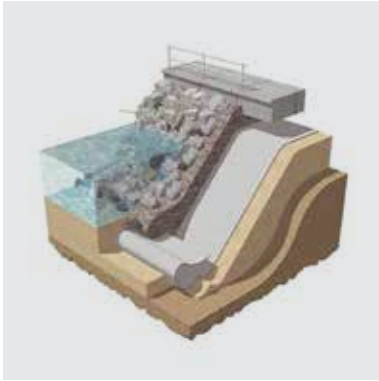
Geotextiles are used to prevent surface erosion. By preventing soil particles from being washed off from slopes or channels, rapid vegetation is ensured when erosion control mats are applied.



FILTRATION



PROTECTION



EROSION CONTROL

GEOTEXTILE CO.



GENERAL USAGES OF GEOSYNTHETICS

Roads, Railways, Drainage Systems, Embankment Erosion, Landfills, Tunnels & Underground, Pipeline Protection, Shore & River Line Protection.

NONWOVEN
GEOTEXTILE
MATERIAL



ABOUT US

Yalda Company is a multi-functional industrial trading company committed to keep its clients delighted by providing high quality geosynthetic products and cost effective services. The need of reliable containments for liquids, solids and waste materials continues to increase as environmental demands and standards are elevated.

Our Geomembrane technology offers a wide range of materials which is capable to meet these demands.

Yalda Company supports a complete selection of Geomembrane materials with design assistance, fabrication and installation services. We work with the engineering consultant or general contractor to ensure the optimum design along with the most efficient and cost-effective installation for any Geomembrane applications (HDPE & LLDPE).

“GEOMEMBRANE
GEOTEXTILE
GEOCOMPOSITE”

www.zarifmosavar.com



PRODUCTS OF YALDA COMPANY

Geosynthetics (Geomembrane, Geotextile, Geocomposite)

Geosynthetics have been known as the most popular and effective materials for industrial and engineering insulation since the last two decades.

Geomembranes

We are highly specialized in supplying and manufacturing of HDPE / LLDPE polyethylene Geomembrane liners based upon international standard (GRI GM13) since many years ago. We`ve built our reputation and reliability through our dedication to provide the highest quality Geomembranes made from high quality Polyethylene Resin, black carbon & Antioxidant added for best UV protection and long life.

We supply liners with Smooth/Smooth surfaces in green, blue and black colour. Our Geomembranes are manufactured to meet and exceed the test values, frequency of testing & functional requirements of the GRI GM13 specification which was established by Geomembrane Research Institute (GRI), USA.

| Roll Lengths Based on Each Thickness, in width of 4.1 Mtrs | | | | |
|--|-----------|-----------|--------|--------|
| Thickness | 1.0 mm | 1.5 mm | 2.0 mm | 2.5 mm |
| Length | 50 - 75 m | 50 - 60 m | 50 m | 25 m |

GEOMEMBRANE GEOTEXTILE GEOCOMPOSITE

Our Polyethylene Geomembranes are made from relatively thin continuous impermeable polymeric sheets being widely used as canal and pond liners. These products are resistant against UV and chemicals and have excellent flexibility and durability. All these together have made our Geomembranes to be widely used in exposed areas and places where long durability is essential and in industries such as Oil & Chemicals, Waste Liquids (e.g., sewage sludge), Landfill Sites, Agriculture, Aquiculture and Mining.





GEOMEMBRANE TYPES

Our Geomembrane Sheets are generally used for containment of liquids, solids and waste materials and are in two types as follow:

- High Density Polyethylene Geomembranes (HDPE GMB)
- Linear Low Density Polyethylene Geomembranes (LLDPE GMB)

Our HDPE / LLDPE GMB technology offers a wide range of materials which are capable to meet most of customer requests.

LANDFILLS
POWER
INDUSTRIAL
MINING ...





HDPE GMB

HIGH DENSITY POLYETHYLENE GEOMEMBRANES

Our HDPE GMB offers great ultraviolet protection and aging resistance from the intense stresses of weather. Although, it is less flexible than LLDPE counterpart, it still offers great elongation properties which is making it extremely cost-effective for many applications.

MAIN ADVANTAGES OF HDPE GMB

1. The chemical resistance of our HDPE GMB is the best of any available geomembranes. Polyethylene is chemically resistant to a wide variety of chemicals including aromatic and halogenated hydrocarbons. They have been used successfully for years as primary and secondary landfill liners, in secondary containment applications and as liners for mining leach pads.
2. The stress crack resistance of our HDPE GMB is outstanding. The appendix to ASTM D 5397, Single Point Notched Constant Tensile Load, is the test method which is most commonly specified for determination of stress crack resistance.
3. Permeability of our HDPE GMB against gases and liquids is the lowest of any available geomembranes. This coupled with outstanding chemical and stress crack resistance combine to maximize the integrity of containment for any application.
4. Flexibility and high resistance against tearing, rubbing and puncturing.
5. High resistance against U.V. rays (Thermal stability of the sunrays).
6. Excellent flexibility and elongation.
7. Easy installation/ transport / logistics.

8. Excellent soldering ability.
9. Impact resistance.

MAIN APPLICATIONS OF HDPE GMB

LANDFILLS

Solid & Municipal Waste, Hazardous Waste, Construction & Demolition Waste, Industrial waste.

POWER

Retention Ponds, Cooling Water Ponds, Brine Ponds, Pumped Storage Reservoirs, Ash Repositories.

CONCRETE PROTECTION

Concrete Pipe & Sewer Lines, Trenches & Sumps, Wastewater Facilities, Tunnels, Manholes.

INDUSTRIAL

Tank Lining, Storm Water Runoff, Vertical Barriers, Secondary Containment.

LIQUID CONTAINMENT

Water & Wastewater, Petrochemical, Agriculture/ Aquaculture pools, Simulated lakes, Aquaculture Canal Lining, Dams, Floating Covers, Relaxing pools, Water storage constructions, Waste water storage constructions, Pool insulation, Water ways.

MINING

Heap Leach Pads, Solution Ponds, Treatment Lagoons.

OTHERS

Golf Course Ponds, Decorative Ponds, Waterproofing, Simulated lakes & Constructions.



LLDPE GMB

LINEAR LOW DENSITY POLYETHYLENE GEOMEMBRANES

Our LLDPE GMB provides much of the same durability and resistance properties found in HDPE GMB, but with the added benefit of increased material flexibility because it is a lower-density polymer. This increased flexibility makes LLDPE GMB well suited for pre-fabrication into large panels, minimizing field work. Additionally, LLDPE GMB is often used in applications where long-term large settlements may be anticipated, such as landfill covers. Thanks to our LLDPE GMB Flexibility and elongation, it can simply take the place of PVC Sheets and can be used instead.

Main Applications of LLDPE GMB

Solid Waste Landfills, Hazardous Waste Landfills Mining, Industrial and wastewater treatment, Lagoon Constructions and etc.





TECHNICAL
DATA

| Technical Specifications (LLDPE) | | | |
|----------------------------------|------------|--------------------|------------|
| PARAMETER | METHOD | UNIT | RESULTS |
| | | | GM150L |
| Thickness | ASTM D5199 | mm | 1.5 |
| Tensile Strength at Break | ASTM D6693 | N.mm ⁻¹ | Min. 40 |
| Tensile Elongation at Break | ASTM D6693 | % | Min. 800 |
| 2% Modulus | ASTM D5323 | N.mm ⁻¹ | Max. 630 |
| Puncture Resistance | ASTM D4833 | N | Min. 370 |
| Tear Resistance | ASTM D1004 | N | Min. 150 |
| Carbon Black Content | ASTM D1603 | % | 2.1 |
| Carbon Black Dispersion | ASTM D5596 | - | 9 in cat.1 |

TECHNICAL
DATA

| Technical Specifications (HDPE) | | | | | |
|---------------------------------|------------|---------------------|------------|------------|------------|
| PARAMETER | METHOD | UNIT | RESULTS | | |
| | | | GM100H | GM150H | GM200H |
| Thickness | ASTM D5199 | mm | 1.00 | 1.50 | 2.00 |
| Density | ASTM D1505 | g.mL ⁻¹ | Min. 0.940 | Min. 0.940 | Min. 0.940 |
| Tensile Strength at Yield | ASTM D6693 | KN.mm ⁻¹ | Min. 15 | Min. 22 | Min. 29 |
| Tensile Strength at Break | ASTM D6693 | KN.mm ⁻¹ | Min. 27 | Min. 40 | Min. 53 |
| Tensile Elongation at Yield | ASTM D6693 | % | Min.12 | Min. 12 | Min. 12 |
| Tensile Elongation at Break | ASTM D6693 | % | Min. 700 | Min. 700 | Min. 700 |
| Tear Resistance | ASTM D1004 | N | Min.125 | Min. 187 | Min. 249 |
| Puncher Resistance | ASTM D4833 | N | Min. 320 | Min. 480 | Min. 640 |
| Carbon Black Content | ASTM D1603 | % | 2.1 | 2.1 | 2.1 |
| Carbon Black Dispersion | ASTM D5596 | - | 9 in cat.1 | 9 in cat.1 | 9 in cat.1 |



GEOTEXTILES

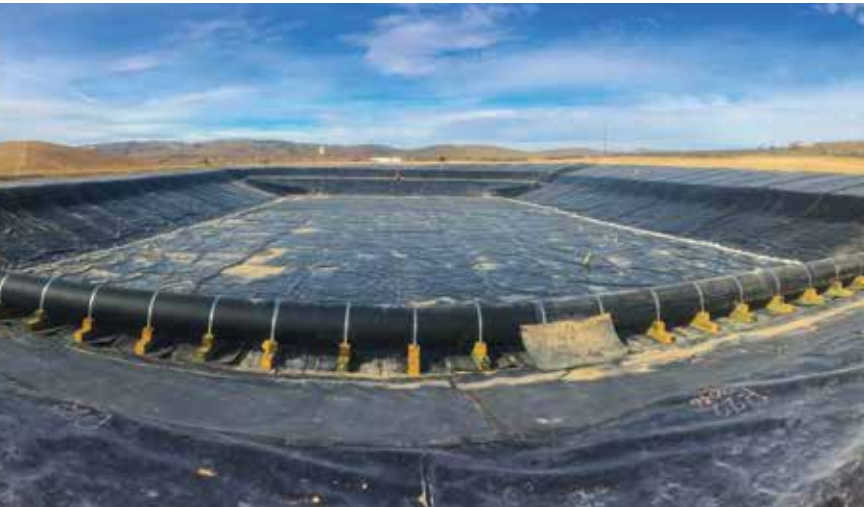
DESCRIPTION

Geotextiles are permeable fabrics which is used in association with soil, have the ability to separate, filter, reinforce, protect, or drain. They are typically made from polypropylene or polyester. In many cases, geotextiles replace or reduce the need to use natural aggregate construction materials which provide both economic and environmental benefits. We offer a range of geotextiles including nonwoven and composites. Our Nonwoven Geotextiles are made from polypropylene fibers that are needle-punched to form a dimensionally stable network and have a wide range of applications in civil environmental engineering and construction projects. the geotextile usages are:

1. Filtration of soils in drainage applications by retaining soil particles while allowing for the free flow of water.
2. Separation and stabilization in road and railway constructions.
3. Prevention of soil movement in erosion control measures.
4. Cushioning and protection in many containment projects.

Our geotextiles are available in varying strengths and thicknesses to ensure appropriate material selection for the project requirements.

TO SPLIT
FILTERING
REINFORCEMENT
PROTECTION
DISCHARGE



Main Applications of Geotextile:

1. Road construction, highways.
2. Embankments, Asphalt repaving of roads.
3. Coastal & riverbank revetment systems.
4. Filtration.
5. Drainage.
6. Composites.
7. Protection for Geomembrane in landfills.

| TEST | TEST METHOD | UNIT | M . A . R . V |
|---------------------|---------------------|------------------|---------------|
| Grab Strength | ASTM D-4632 | N | 450 |
| Mass Per Unit Area | ASTM D-3776 | g/m ² | 140 |
| Ultimate Elongation | ASTM D-4632 | % | 50 |
| Asphalt Retention | Texas DOT Item 3099 | l/m ² | 1.2 |
| Melting Point | ASTM D-276 | Centigrades | 150° |



GEOCOMPOSITES

DESCRIPTION

Our Composite Geomembrane (Geocomposites), as a kind of impervious material made through the combination of geotextile and geomembrane, are mainly used in water drainage and rib reinforcement.

Geocomposite Types:

1. Three Layer Geocomposites

Two fabrics plus one membrane

(Geotextile for protective use would be applied on both sides of anti-seepage membrane).

In this geocomposite type, the geotextile is made of Polypropylene or Polyester.

2. Two Layer Geocomposites

One fabric plus one membrane

Geotextile for protective use would be applied on one side of anti-seepage membrane).

In this geocomposite type, the geotextile is made of Polypropylene or Polyester.

Main Applications of Geocomposites:

1. Water conservation
2. Subways
3. Basement and Tunnels
4. Tunnel Impermeable lining
5. Road
6. Highway
7. Railway Subgrade
8. Foundation Vertical Impermeable Layer
9. Cofferdam Construction
10. Irrigation Ditch
11. Liquid Pool
12. Scrap Yard
13. Saline Control in Subgrade
14. Waterproof Layer of Expansive Soil and Collapsible Loess
15. Roofing Leakage Prevention

Geocomposite Features

1. High tensile
2. High bursting
3. High tear-pro strength
4. And high physical performance in general

Yalda Company supports a complete selection of Geomembrane and Geocomposite materials as well as design assistance, fabrication and installation services. We work with engineering consultant or general contractor to ensure achievement of optimum design along with the most efficient and cost-effective installation for any Geomembrane & Geocomposite application.



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ZarifMosavar Overview Note

