



There Is Always a Better Way

ARIA POLYMER

Product Catalogue for the **Piping** Industry



THERE IS ALWAYS A BETTER WAY...



ARIA POLYMER is a multinational enterprise to provide technology research and manufacture top-notch additives and functional polymers, founded in 2009.

ARIA POLYMER is one of the few players in the region to develop series of products to meet domestic and international market needs, including:

- **MALEIC ANHYDRIDE GRAFTED POLYMERS** used as Coupling Agent and Compatibilizer, and
- **TIE LAYER ADHESIVES** used in Multilayer Structures, e.g., Multilayer Films, Pipes, Tubes, etc.;

In addition to these high-tech products, ARIA POLYMER manufactures a wide range of

- **ADDITIVE MASTERBATCHES** to improve specifications of different polymers.

Accordingly, our various products are widely used in:

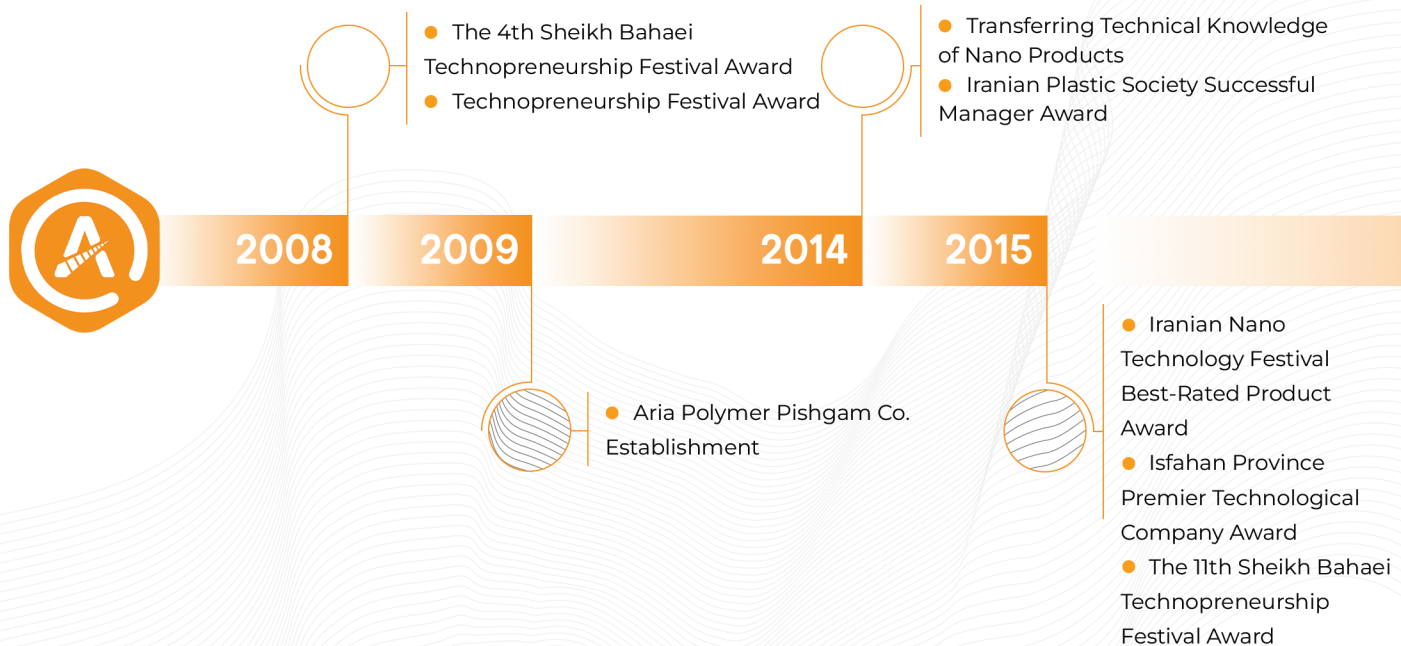
Automotive Compounds and Parts, Pipes, Packaging, Building and Civil Constructions, Medical Tools;
and Consumer Goods.

Holding **ISO 9001, ISO 10004 and ISO 17025**, Food and Drug Compliance, Oil Ministry Confirmation, being a member of different associations in Plastic and Polymer fields, having a well-equipped internal lab, accessing a wide range of petrochemical companies and a powerful supply chain, accessing university, knowledge poles and gifted graduated students, are all juxtaposed to enable ARIA POLYMER to provide the customers with state-of-the-art products.

And all these make us believe **THERE IS ALWAYS A BETTER WAY...**

Aria Polymer: from the Beginning to 2030

Timeline



2016



- Asian Science Park Association Grand Prize

2021



- Isfahan Province's Knowledge-Based Award
- Selected Exporter of Iran Polymer Industry

2022



- Selected Exporter of Iran Polymer Industry
- Excellence Award of Iran Polymer Industry

2030

70% Share of
Innovative Products
in Gross Sales

ADDITIVE MASTERBATCH

- | | | |
|----|---------------|----------------------------|
| 9 | Aria Add 2191 | Black Masterbatch |
| 10 | Aria Add 2114 | White Masterbatch |
| 11 | Aria Add 2130 | Antioxidant Masterbatch |
| 12 | Aria Add 2105 | Processing Aid Masterbatch |

ARIA COMPOUND

- | | | |
|----|----------------|-------------------------------------|
| 15 | Aria Comp 4368 | Black Polyethylene Coating Compound |
|----|----------------|-------------------------------------|

TIE LAYER ADHESIVE

- | | | |
|----|------------------------|---|
| 17 | Aria Adhesive 4107T242 | Grafted Polyethylene Adhesive |
| 18 | Aria Adhesive 4107T320 | Grafted Polyethylene Adhesive |
| 19 | Aria Adhesive 4407T134 | Grafted Polyethylene Adhesive |
| 20 | Aria Adhesive 4100T276 | Grafted Polyethylene Adhesive |
| 21 | Aria Adhesive 4107T305 | Grafted Polyethylene Adhesive (Coating) |
| 22 | Aria Adhesive 4107T267 | Grafted Polyethylene Adhesive (Coating) |
| 23 | Aria Adhesive 4100T319 | Grafted Polyethylene Adhesive (Coating) |





Aria Add 2161
Optical Brightener
Masterbatch

Additive Masterbatch

ARIA ADD

ARIA ADD is a category of concentrated mixture of additives dispersed in a carrier resin, designed to impart specific properties or functionalities to plastic products. These additives are incorporated during the manufacturing process to enhance the plastic's performance, durability, or appearance. Essentially, it's a convenient way to introduce desired characteristics into plastics without directly handling and dispersing the often difficult-to-process additives. **ARIA ADD** products are widely used in every typical plastic process, such as injection molding, blow molding and extrusion molding.

Black Masterbatch Aria Add 2191

• Description

- Aria Add 2191 is a carbon black polyethylene based masterbatch, specially designed for coloring of polyethylene in injection molding and compounding applications, and also increase the UV-resistance of plastic products
- The black masterbatch based on a mixture of polyethylene filled with 40% carbon black is mainly used for any pipe productions, packaging film, and geomembrane industries



• Product Application

Black Masterbatch for pipe, packaging film, and geomembrane

• Advantages

- High dispersion
- High thermal stability
- Completely miscible vast range of plastic

• Technical Specifications

Properties	Value	Method
Appearance	Black Granules	-
Carbon Black Pigment	40±1%	ASTM D4218
Carrier Resin	PE	-
Density	1.1±0.1 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	15±3 g/10min	ASTM D1238
Absorption Moisture	<0.1%	ASTM D570
OIT (200°C)	40 min ≤ OIT	ISIRI 7186-6
Usage Level	According to condition and requirements	

White Masterbatch

Aria Add 2114

• Description

- Aria Add 2114 is a well-dispersed polyethylene based masterbatch
- Aria Add 2114 has very high color strength and good flow properties

• Product Application

White masterbatch for PE

• Advantages

- Well Dispersed
- Excellent Hiding Power
- Excellent Whiteness
- Good Melt strength



• Technical Specifications

Properties	Value	Method
Appearance	White Granules	-
White Pigment	70±2%	ASTM D4218
Carrier Resin	PE	-
Density	1.8±0.2 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	3±1 g/10min	ASTM D1238
Moisture	Max 0.1%	ASTM D644
Usage Level	According to condition and requirements	

Antioxidant Masterbatch

Aria Add 2130

• Description

Aria Add 2130 is an antioxidant masterbatch based on PE for the thermal stabilization of various polymers. This concentrate is containing a mixture of primary and secondary antioxidants

• Product Application

Antioxidant for general purpose applications

• Advantages

- Improve melt flow control
- Lower initial color and outstanding color maintenance
- Improved compatibility of additive with matrix
- Avoid oxidative degradation in higher temperatures



• Technical Specifications

Properties	Value	Method
Appearance	Milky Granules	-
Active Ingredients	>10%	-
Carrier Resin	HDPE	-
Density	0.94±0.02 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	7±3 g/10min	ASTM D1238
Usage Level	1-3%	

Processing Aid Masterbatch

Aria Add 2105

• Description

Aria Add 2105 is a processing aid (PPA) masterbatch, containing fluoropolymer (PVDF) based in a polyethylene carrier. It can improve PE processing and be recommended for polyolefin films, sheets, pipes, tubes, extrusion processes and stone paper

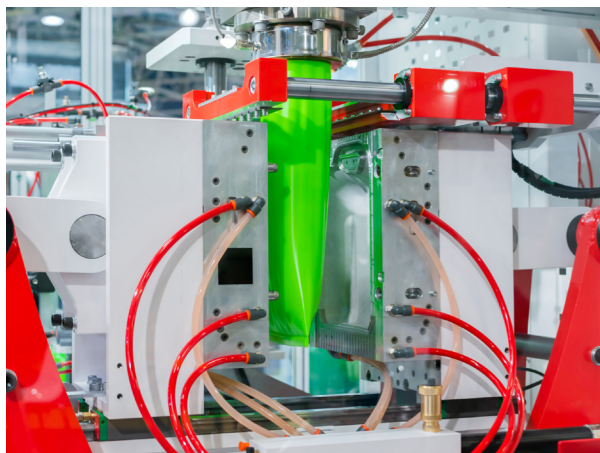
• Product Application

PPA for polyolefin films, sheets, pipes, tubes and paper stone

• Advantages

- Surface smoothness
- Less machine-direction drawing
- Improve the processability of recycled polymer
- Die build-up monitoring in Cast Film Line
- Improve processing lower MFI resins
- Melt fracture elimination
- Reduce operating pressure and temperature
- Increase output and energy saving

• Technical Specifications



Properties

Value

Method

Appearance	White Granules	-
Carrier Resin	PE	-
Density	0.92±0.01 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	2±1 g/10min	ASTM D1238
Usage Level	0.5-2.5%	-



Compound **ARIA COMP**

ARIA COMP is a basic and widely-used category of polymers to enable the customers use their required material in the simplest possible way.

ARIA COMP includes a grade of **3LPE Top Coat Compound**, and some **Polyolefin Impact Modifiers**.



Black Polyethylene Coating Compound

Aria Comp 4368

• Description

Aria Comp 4368 is a black polyethylene coating compound. It has been primarily designed for steel pipe coating

• Product Application

Steel pipe Coating

• Advantages

- Good Melt Strength
- Good Process ability
- Very good ESCR
- Superior Mechanical Properties at low and high temperature



• Technical Specifications

Properties	Value	Method
Density	0.95±0.005 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	0.4±0.05 g/10min	ASTM D1238
Melting Temperature (DSC)	Min. 127 °C	ISO 11357-3
Hardness, Shore D	Min. 57	ASTM D2240
Tensile Stress at Yield	Min.18 MPa	ASTM D 638
Elongation at Break	Min. 700	ASTM D 638
Carbon Black Content	2-2.5 %	ASTM D1603
Carbon Black Dispersion	Max. 2.5	ISO 18553



Tie Layer Adhesive

ARIA ADHESIVE

ARIA ADHESIVE is an inseparable part of many polymer-based multilayer structures. It is a Tie Layer Adhesive in granule and powder form to make a firm bond between polyolefin and non-polymer layers.

ARIA ADHESIVE is specifically designed to be used in vital industries, e.g. **Steel Pipe Coating, PEX and PERT Pipes, Reinforced Corrugated Pipes, Oxygen Barrier Packaging Films, Cosmetic and Hygienic Tubes, Plastic Fuel Tanks, Aluminum Composite Panels, etc.**

Grafted Polyethylene Adhesive

Aria Adhesive 4107T242

Description

Aria Adhesive 4107T242 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as a tie layer adhesive in multilayered structure pipes

Product Application

Adhesion Layer

PEX or PE with polar layer (Al, steel and ...) in pipe structure

Advantages

- High peel strength
- Compabilizing polar and nonpolar layers
- Improving properties of coated steel pipes



Technical Specifications

Properties	Value	Method
Density	0.93 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	2.5±0.5 g/10min	ASTM D1238
Melting Temperature	141±3 °C	ISO 113571
Vicat Softening Point	102±4 °C	ISO 306
Tensile Strain at Break(50mm/min)	>300 %	ISO 527
Tensile Stress at Yield(50mm/min)	16±4 MPa	ISO 527
Tensile Stress at Break(50mm/min)	18±4 MPa	ISO 527

Processing Condition Suggestion

Zone1(°C)

180-200

Zone2(°C)

180-200

Zone3(°C)

180-200

Zone4(°C)

200-210

...(°C)

200-210

Die(°C)

210-230

Grafted Polyethylene Adhesive

Aria Adhesive 4107T320

• Description

Aria Adhesive 4107T320 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as a tie layer adhesive in multilayered structure pipes

• Product Application

Adhesion Layer

PEX or PE with polar layer (Al, steel, etc.) in pipe structure

• Advantages

- High peel strength
- Compabilizing polar and nonpolar layers
- Improving properties of coated steel pipes

• Technical Specifications



Properties

Value

Method

Density	0.94 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	2.3±0.5 g/10min	ASTM D1238
Melting Temperature	139±3 °C	ISO 113571
Vicat Softening Point	106±4 °C	ISO 306
Tensile Strain at Break(50mm/min)	>300 %	ISO 527
Tensile Stress at Yield(50mm/min)	16±3 MPa	ISO 527
Tensile Stress at Break(50mm/min)	19±3 MPa	ISO 527

• Processing Condition Suggestion

Zone1(°C)

180...200

Zone2(°C)

180...200

Zone3(°C)

180...200

Zone4(°C)

200...210

...(°C)

200...210

Die(°C)

210...230

Grafted Polyethylene Adhesive

Aria Adhesive 4407T134

Description

Aria Adhesive 4407T134 is a maleic anhydride grafted polypropylene adhesive resin in pellet form. It has been primarily designed to act as a tie layer adhesive in multilayer structure pipes



Product Application

Adhesion Layer

PP with polar layer (Al, steel, etc.) in pipe structure

Advantages

- High peel strength
- Compabilizing polar and nonpolar layers
- Improving properties of coated steel pipes

Technical Specifications

Properties	Value	Method
Density	0.92±0.01 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	3.3±1.5 g/10min	ASTM D1238
Melting Temperature	144±5 °C	ISO 113571
Vicat Softening Point	110±5 °C	ISO 306
Tensile Strain at Break(50mm/min)	>300 %	ISO 527
Tensile Stress at Yield(50mm/min)	15±4 MPa	ISO 527
Hardness Shore D	63±5	ISO 868

Processing Condition Suggestion

Zone1(°C)

190-210

Zone2(°C)

190-210

Zone3(°C)

210-230

Zone4(°C)

210-230

...(°C)

210-230

Die(°C)

220-240

Grafted Polyethylene Adhesive

Aria Adhesive 4100T276

Description

Aria Adhesive 4100T276 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as a tie layer adhesive in multilayered structure pipes

Product Application

Adhesion Layer

- PE with polar layer (Al, steel or EVOH) in pipe structure
- Spiral corrugated pipes

Advantages

- High peel strength
- Compabilizing polar and nonpolar layers
- Improving properties of coated steel pipes



Technical Specifications

Properties	Value	Method
Density	0.94 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	2.6±0.6 g/10min	ASTM D1238
Melting Temperature	140±3 °C	ISO 113571
Vicat Softening Point	104±4 °C	ISO 306
Tensile Strain at Break(50mm/min)	>600 %	ISO 527
Tensile Stress at Yield(50mm/min)	14±4 MPa	ISO 527
Tensile Stress at Break(50mm/min)	22±4 MPa	ISO 527
Hardness Shore	58±4 D Scale	ISO 868

Processing Condition Suggestion

Zone1(°C)

180...200

Zone2(°C)

180...200

Zone3(°C)

180...200

Zone4(°C)

200...210

...(°C)

200...210

Die(°C)

210...220

Grafted Polyethylene Adhesive (Coating)

Aria Adhesive 4107T305

Description

Aria Adhesive 4107T305 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as adhesive layer in PE 3-layer coated steel pipes

Product Application

Adhesion Layer

- Tie layer adhesive in top coat PE in coated steel pipe (Fusion Bonded Epoxy)
- Operating temperatures from -45 °C to +90 °C

Advantages

Improving adhesion between epoxy layer (FBE primer) and the top coat polyethylene in 3-layer coated steel pipes



Technical Specifications

Properties	Value	Method
Density	0.941±0.01 g/cm ³	ISO 1183
Melt Flow Index @190°C/2.16kg	2±0.5 g/10min	ISO 1133
Melting Temperature	135±4 °C	ISO 113571
Vicat Softening temperature _{A50, (10N)}	105±3 °C	ISO 306
Tensile Strain at Break at (23 °C)	>600 %	ISO 527
Tensile Stress at Yield at (23 °C)	16±3 MPa	ISO 527
Tensile Stress at Break at (23 °C)	21±3 MPa	ISO 527

Processing Condition Suggestion

Zone1(°C)

180-200

Zone2(°C)

180-200

Zone3(°C)

180-200

Zone4(°C)

200-210

...(°C)

200-210

Die(°C)

210-230

Grafted Polyethylene Adhesive (Coating)

Aria Adhesive 4107T267

Description

Aria Adhesive 4107T267 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as adhesive layer in PE 3-layer coated steel pipes

Product Application

Adhesion Layer

- Tie layer adhesive in top coat PE in coated steel pipe (Fusion Bonded Epoxy)
- Operating temperatures from -45 °C to +90 °C

Advantages

Improving adhesion between epoxy layer (FBE primer) and the top coat polyethylene in 3-layer coated steel pipes



Technical Specifications

Properties	Value	Method
Density	0.942 g/cm ³	ISO 1183
Melt Flow Index @190°C/2.16kg	2.2±0.6 g/10min	ISO 1133
Melting Temperature	131 °C	ISO 113571
Vicat Softening temperature A50, (10N)	105±3 °C	ISO 306
Tensile Strain at Break at (23 °C)	>700 %	ISO 527
Tensile Stress at Yield at (23 °C)	12±3 MPa	ISO 527
Tensile Stress at Break at (23 °C)	18±3 MPa	ISO 527
Hardness Shore D	5I	ISO 868

Processing Condition Suggestion

Zone1(°C)

180...200

Zone2(°C)

180...200

Zone3(°C)

180...200

Zone4(°C)

200...210

...(°C)

200...210

Die(°C)

210...230

Grafted Polyethylene Adhesive (Coating)

Aria Adhesive 4100T319

Description

Aria Adhesive 4100T319 is a maleic anhydride grafted polyethylene adhesive resin in pellet form. It has been primarily designed to act as a tie layer adhesive in multilayered structure pipes



Product Application

Adhesion Layer

Spiral corrugated pipes

Advantages

- High peel strength
- Compabilizing polar and nonpolar layers
- Optimal processability in the long term

Technical Specifications

Properties	Value	Method
Density	0.91 g/cm ³	ASTM D792
Melt Flow Index @190°C/2.16kg	2.5±0.7 g/10min	ASTM D1238
Melting Temperature	136 °C	ISO 113571
Vicat Softening Point	101 °C	ISO 306
Tensile Strain at Break at (23 °C)	>700 %	ISO 527
Tensile Stress at Yield at (23 °C)	12±3 MPa	ISO 527
Tensile Stress at Break at (23 °C)	20±3 MPa	ISO 527
Haedness Shore	56±4 D Scale	ISO 868

Processing Condition Suggestion

Zone1(°C)

160-180

Zone2(°C)

160-180

Zone3(°C)

160-180

Zone4(°C)

160-180

...(°C)

160-180

Die(°C)

180-200



Aria Coupler
Maleic Anhydride
Crystalline Polymer

Maleic Anhydride
Crystalline Polymer

- Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



**Download
Catalogue**



ARIA POLYMER



Aria Polymer Bldg, St. 15th, Isfahan Science & Technology Town, Isfahan University of Technology, Isfahan, Iran



ariapolymer.co



info@ariapolymer.co



+98 (31) 3393 21 51-2



+98 903 701 1593