UBE NYLON

UBESTA (NYLON 12)

Electronics

UBESTA has superior processability characteristics to achieve smooth surfaces and stable mechanical properties, UBESTA can improve the designers satisfaction in terms of reliability, quality and durability for many different products.

Polymer

UBESTA Polyamide 12

Characteristics

Superior processability for thin wall sheating due to no gels. Excellent mechanical strength and surface hardness to prevent cables from rat and termite attacks. High flexibility, impact resistance and chemical resistance. Superior thermal and weather resistance.

Application

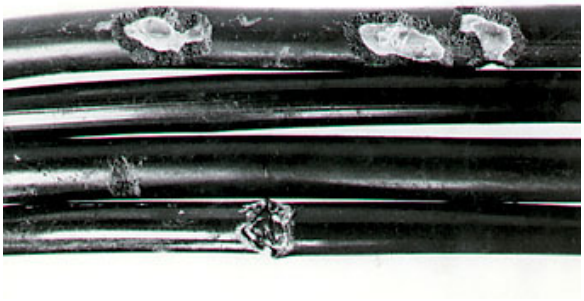
- Optical fibers and cables.
- Conventional cables.
- Antitermite cables.
- "Bite" resistant cables.

Properties Chart (Ubesta_Electronics_chart.pdf 299 kb)

UBESTA P3014U

UBESTA 3024LU

Anti-termite resistance



UBESTA Polyamide 12 has excellent termite resistance properties, compared to other plastics. UBESTA is used as a material for jackets and sheaths for telephone and Data Communication Systems throughout the world. (from top side LDPE / UBESTA 3020LU1X3 / HDPE/PA6)

Automotives

Conformity with all international standards

UBESTA®	ISO		DIN 73378				SAE J844/SAE 1394b	
	Tube up to 10bar	Tube up to 12.5 bar	PA12 HL	PA12 PHL	PA12 HIPHL (type1)	PA12 PHLY	TYPE A	TYPE B
3030UFX1			○					
3030LUX			○					
3030JFX1				○				
3030JLX1				○				
3030JI5	○				○		○	○
3030JI5L	○				○		○	○
3030JI9		○				○		
3030JI9L		○				○		

Properties

UBESTA_Automotive_properties.pdf

autoBrake

Polymer

UBESTA Polyamide 12

Characteristics

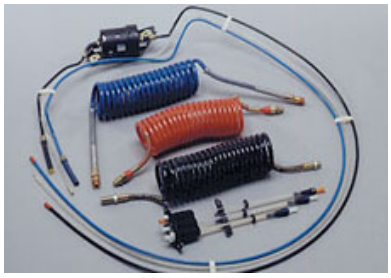
- All grades complying to DIN-, ISO- and SAE-standards (SAE : A&B tubes).
- Grades with ultra low plasticizer migration available for longtime elastic memory even at elevated temperatures. Withstand the elevated operating pressure in trucks at increasing temperature requirements.
- UBESTA Polyamide 12 approved by leading car and truck manufacturers all over the world.

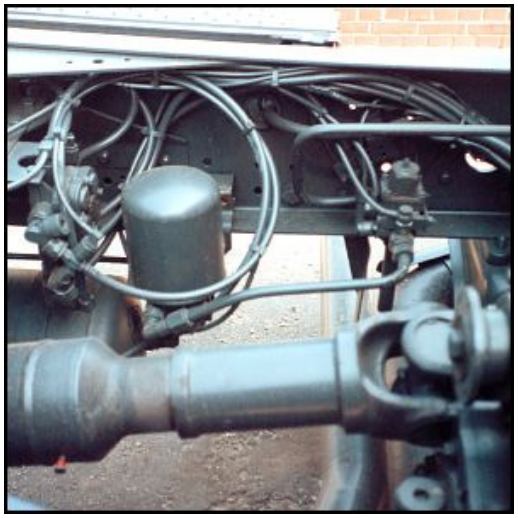
Application

- Airbrake tubes.
- Coiled airbrake tubes.
- Diesel tubes.
- Tubes for air suspension.

- Tubes for central greasing systems.

Air Blake
UBESTA 3030JI5 3030JI9





autoTank
Polymer

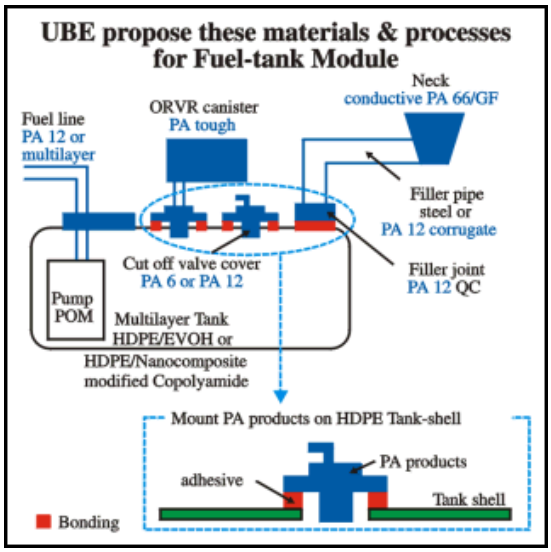
Modified PA 6 and modified PA 12 with excellent adhesion properties to modified PE.

Characteristics

Modified PA 6 and modified PA 12 offer much less permeation than PE in order to meet LEV II regulations (Hydrocarbon emission and fuel emission).
Support to integrate tank-related components into the tank.
High mechanical strength as well as superior impact resistance of Polyamides.

Application

Low emission fuel tank systems by hot plate welding. Components made of modified PA onto a fuel tank by utilizing modified PE as an adhesive.



autoTube

Polymer Involving all Polyamide resins of UBE Industries, Ltd., including nanocomposite technology.

Characteristics

ECOBESTA (patent pending) multilayer system is economical and ecological wellbalanced and available in conductive and non-conductive version.

New PA 12/ETFE system (patent pending) offers the lowest hydrocarbon and fuel permeation of all plastic fuel tube systems in order to meet American regulations such as LEV II.

UBESTA 3020 X 25 L is widely used for coating of metal tubes and brake lines. High viscosity grade by unique continuous polymerisation available for corrugated tube application.
Approved by leading car manufacturers.

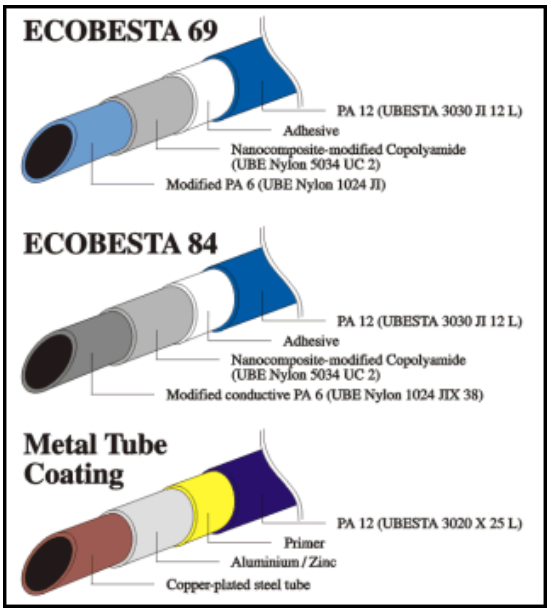
Application

Diesel and fuel tubes. Vapor fuel tubes

Fuel Tubing
UBESTA 3030JI6L 3030JI12L

Coating
UBESTA 3020X25L

Connectors
UBESTA 3020GX6/UBESTA 3020GX9



Industorial
Intake Injection
Polymer

UBE Nylon 1015 GNK (PA 6 - 30% GF)

Characteristics

Excellent for injection molding - Heat resistance, surface appearance, burst pressure, adapted rheology for in-mold injection welding

Applicattion

Engine Parts

Intake Lost Core
Polymer

UBE Nylon 1015 GNK (PA 6 - 30% GF)

Characteristics

Excellent for injection molding - Heat resistance, surface appearance, burst pressure, adapted rheology for vibration Welding

Applicattion

Engine Parts

Intake Vibration
Polymer

UBE Nylon 1015 GNK (PA 6 - 30% GF)

Characteristics

Excellent for injection molding - Heat resistance, surface appearance, burst pressure, adapted rheology for easy mold- and core release.

Applicattion

Engine Parts

Life

UBESTA is being incorporated in an increasing number of consumer products in everyday use. The special properties of UBESTA are even more apparent in products that we rely on daily. UBESTA, is a material with superior qualities that are inherent in genuinely original.

Properties	Test methods (ASTM)	Unit	UBESTA®		
			Thermister		Film
			3020X8	3020X15	3030XA
Melting point	D-3418	deg.C	178	178	178
Density	D-792	g/cm³	1.02	1.02	1.02
Tensile strength at yield	D-638	N/mm²	41	41	42
Tensile strength at break	D-638	N/mm²	>54	>54	>54
Elongation at break	D-638	%	>250	>250	>250
Flexural strength	D-790	N/mm²	54	54	55
Flexural modulus	D-790	N/mm²	1,400	1,400	1,420
Rockwell hardness (R-scale)	D-785	—	110	110	110
Izod impact strength (notched)	D-256	J/m	54	54	98
Heat deflection temperature (0.45N/mm²)	D-648	deg.C	145	141	145
Melt flow index (235 deg.C 2160g)	D-1238R	g/10min	18	20	2

All the data measured at 23 deg.C and 65% relative humidity

UBESTA 3014U

UBESTA 3030XA

Copolymer Capability

Properties	Test methods (ASTM)	Unit	UBE Copolymer	
			PA6/12 copolymer	
			7128B	7115U
Melting point	D-3418	deg.C	135	145
Density	D-792	g/cm³	1.06	1.03
Tensile strength at yield	D-638	N/mm²	9	20
Tensile strength at break	D-638	N/mm²	>27	>27
Elongation at break	D-638	%	>300	>300
Flexural strength	D-790	N/mm²	26	23
Flexural modulus	D-790	N/mm²	780	520
Izod impact strength (notched)	D-256	J/m	80	29
Heat deflection temperature (0.45N/mm²)	D-648	deg.C	34	60
Melt flow index (190 deg.C 1000g)	D-1238R	g/10min	4.2	60

All the data measured at 23 deg.C and 65% relative humidity

Elastomer

Polymer

UBE PAE Polyamide Elastomer

Characteristics

Available in a wide range of Shore hardnesses. High transparency and crystal clear appearance. No yellowing due to better heat stability. Low density compared to other TPE Excellent physical properties.

Application

- Articles in sport industry such like shoe soles, ski boots and profiles.
- Frames for glasses.
- Low noise gears and driving belts.
- Soft touch and high grip handles.
- Pneumatic tubes with small bending radius and good kinking resistance.
- Wheels and casters.

Properties	Test methods (ASTM)	Unit	UBE Polyamide Elastomer	
			Elastomer	
			PAE1200U	PAE1201U
Melting point	D-3418	deg.C	154	165
Density	D-792	g/cm³	1.00	1.00
Tensile strength at yield	D-638	N/mm²	9	19
Elongation at break	D-638	%	>300	>300
Flexural strength	D-790	N/mm²	7	16
Flexural modulus	D-790	N/mm²	150	360
Shore hardness (D-scale)	D-2240	—	58	65
Izod impact strength (notched)	D-256	J/m	N.B.	170
Heat deflection temperature (0.45N/mm²)	D-648	deg.C	82	110
Melt flow index (235 deg.C 2160g)	D-1238R	g/10min	14	8.6

All the data measured at 23 deg.C and 65% relative humidity

PAE1200U2

Film

Polymer

UBE Nylon 5034 and 7034 series. Copolyamide 6/6.6 & Copolyamide 6/12 produced using UBE's continuous polymerisation process.

Characteristics

Application

- Food packaging (shrink pack, casing, standing pouch, ...),
- Agricultural and industrial films Powder.

UBESTA 3030XA

Powder

Polymer

UBESTA Polyamide 12

Characteristics

Average particle size of 5 µm for cosmetic applications. Perfect spherical shape due to unique polymerisation technology (patent application pending). Silk-like feeling, no streaking and no caking. Guarding additives like vitamines. Absorption of sweat and skin oil and deffered release of parfums.

Application

Make-up, eye shadow, mascara. Suncream, hand cream. Deostick and deospray.

Piping

UBESTA contributes to UTILITY transmission and distribution fields. A revolutionary plastic pipe system developed for gas industry seen in below is just one example. It is used for both buiral and for rehabilitation of existing cast iron and steel gas mains.

With excellent performance of creep and chemical resistance UBESTA supports this industry as one of the most reliable materials.

Polymer

UBESTA Polyamide 12

Characteristics

Outstanding processability of UBESTA 3035 UF even of big diameter pipes. Ultra high molecular weight Polyamide 12 utilising a unique monomer source. Reliable economical connection technology by solvent welding. Dimensional stability and excellent resistance to weather and chemical substances. Cost competitiveness due to solvent welding instead of electro fusion welding (HDPE). Increase of operating pressure due to higher pressure resistance.

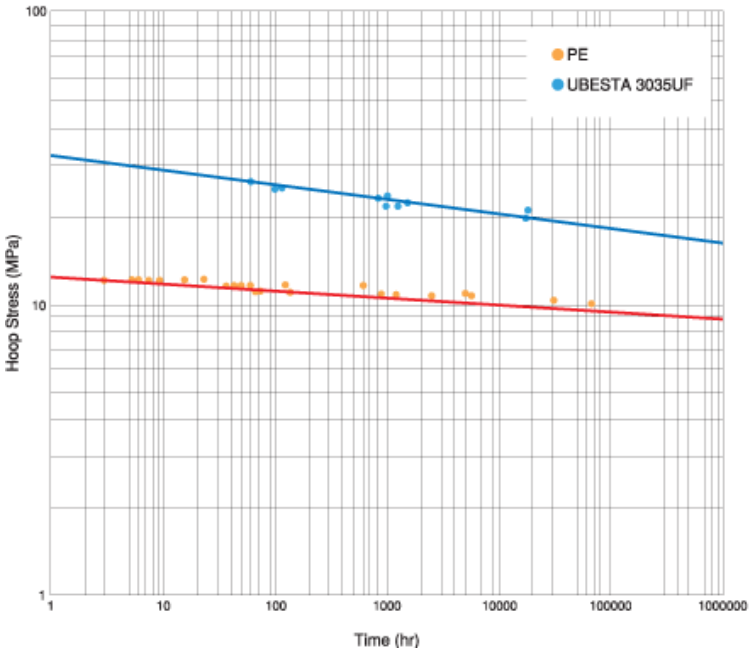
Application

- Rehabilitation of corroded cast iron gas pipes.
- New installation of gas pipe systems for higher operating pressure.>
- Distribution systems with many branches which require many connections

Properties	Test methods (ASTM)	Unit	UBESTA®	
			Rigid	
			3035UF	3035LU1
Melting point	D-3418	deg.C	178	178
Density	D-792	g/cm³	1.02	1.02
Tensile strength at yield	D-638	N/mm²	42	46
Tensile strength at break	D-638	N/mm²	>54	>56
Elongation at break	D-638	%	>250	>250
Flexural strength	D-790	N/mm²	55	61
Flexural modulus	D-790	N/mm²	1,420	1,590
Rockwell hardness (R-scale)	D-785	—	110	112
Izod impact strength (notched)	D-256	J/m	78	90
Heat deflection temperature (0.45N/mm²)	D-648	deg.C	145	149
Melt flow index (235 deg.C 2160g)	D-1238R	g/10min	2.0	1.3
Comments			heat resistance	heat resistance black color

All the data measured at 23 deg.C and 65% relative humidity

Comparison of hoop stress between UBESTA and PE



top