

# Inter Coir Limited

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#### Introduction

The Global focus on environmentally friendly and biodegradable products has renewed interest and boosted the demand for GREEN products. Coir is a commercial grade processed coconut husk that is used for the manufacture of a wide range of household, horticultural, landscaping and slope stabilization products.

Inter Coir Limited (Inter Coir) is a pioneering Coir manufacturing plant in Sri Lanka with a rich history of over 36 years, based in an Industrial Estate, producing Coir based products from Eco Friendly & Biodegradable raw materials. Our vibrant, dynamic and innovative designs are used in Offices, Hotels and Resorts, Households, Gardens and Landscapes, constantly fulfilling our ever-growing customer demands and tailor-made requirements.

Inter Coir is not a trader, but a manufacturer of over 75 products, boasting a young team of professionals, constantly evaluating the needs of their partners overseas as well as their diverse local clientele while observing ever changing market sentiments.

The Inter Coir Head Office and Factory, have an equal blend of Male and Female staff, some of whom have been with Inter Coir for over 25 years, establishing strong bonds shared between Shareholders and staff alike. These efforts have ensured that backward integration has taken place, which ensures income not only for our staff, but also for our long-standing suppliers, who, as a result, have now evolved in to becoming thriving cottage industries themselves. As such, our goal is to ensure that we spread our products globally, sending out the message to use Eco Friendly Coir Based Products, which are 100% Biodegradable and conducive with nature.

## **Products**

The diversity of product ranges has given the Company versatility to operate in a wide range of markets facilitating creativity and can be broadly quadraned into the following main areas;



#### EARTH STABILISATION -

#### Coir Rope Matting



Rope matting is designed initially for the mountain leisure walk paths in Korea because of its environmental and ecofriendly characteristics. Its ropes are made out of 100% coir fibers. 18 coir twines are twisted into a rope of length, equal to 13 meters approx. Each twisted rope is approx 15 mm in diameter. Warp has 48 ropes/1 meter width and weft has 34 ropes per 1 meter width. The woven matting has an average overall thickness of 25-30 mm. The weight per m² is approx 5.50 kg The tensile strength of a rope is approx 450 kg. The tensile strength of a rope mat in length (warp) direction – 20,000 kg. The durability in the open air environment is expected to be over 3 years

#### Used for

Building safety protection matting (netting)
Prevent boulders from falling by anchoring
Steep earth slip preventive cover
Swimming pool edge covers for the prevention of slipping.
Ideal River, stream embankment stabilization mat.
Backyard house gardens natural wall separation where plants could grow easily.

#### Coir Rope Nets





Rope Net made of 100% Coir fiber is constructed with a number of machine spun twines, intertwined into a thick strong rope with a high degree of resilience. Rope Nets could be applied for the prevention of and the protection from rock fall. The flexibility of the rope net facilitates the absorption of the kinetic forces released by falling rocks or any other such solid material and dissipating the energy by the resilience of the rope net. In the olden days ships would be anchored to jetties using these thick Coir ropes.

#### Geo Rolls with Stake points (Coir Logs)





Geo-rolls with woven net, inner lined with rubberized coir pad circular and rectangular sections. stuffed with a mixture of Coir pith and Coir fiber. Dimensions of the bio rolls can be made to specifications

#### Different Density Coir Textile Nettings



Geo textiles, made out of Coir fiber are constructed to give high tensile strengths by using high twisted with low runnage twines, with close weaving. Depending on the tightness of the weave (the grid openings) Coir Geo Textiles can contribute to high erosion resistance materials. Since Coir fiber has the ability to absorb and retain moisture, it invariably helps growth and development of vegetation. High tensile strength quality Geo Nets spread across steep gradient slopes and easily erodible loose/small particle soils will

successfully prevent erosion. These nets can also very effectively be used on slopes threatened by frost shear and also in high surface run-off conditions. The following types of woven 100% Coir geo-textiles are available.

Ideally used for;

Stream Bank Restoration

Vegetation

Wetland Restoration

Stabilization in High Flow Channels

Slope Stabilization and Vegetation

Geo Blanket / Fiber Mat



Coir blankets can cover large areas of streams, river embankments or shorelines, with wetland vegetation grown in it, quickly helping negate erosion in areas with tidal variation, detention basins or wetlands. These blankets are grown in nurseries prior to installation and are therefore conducive for the plants. Sediment collections around roots of plants provide for healthy plant growth. After sometime these blankets get covered with sediment and soil from the wave action and get fully covered with soil. One interesting aspect of this vegetative blanket is that the roots of the plants generally grow very fast, and fix itself to the earth quickly, whereby the relative displacement of the blanket is arrested. These blankets do not float in the medium of water.

#### Coir Geo Bed/Blanket



This product, which is 100% Coir & natural rubber latex, is environmentally friendly and totally biodegradable over a period of time. It is ideal for bio technical, and soil bio engineering applications. It is designed to be used as a top soil cover to prevent erosion of soil and enhance the biological aspects of engineering.

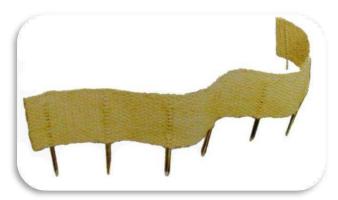
It has good strength, and stability hence able to use for high gradient slopes. It's top cover is a coir fiber woven net which helps in reducing the surface flow velocity and forms an area to protect any vegetative growth.

The design factors should embody biological, ecological and engineering concepts to provide living, functioning systems to prevent erosion, control sedimentation and earth stabilization.

Both biological and the mechanical components will function in this application. This form of rolled erosion control blanket provides attractive, cost effective, and environmentally compatible solutions, to protect slopes against surface erosion. It is simple and easy to lay, with least amount of manpower. Eventually biological organism breaks down the fibers. This break down matter will give much needed mulch that will eventually degrade to a composite like substance.

Stilt Fence with High Density Coir Matting





The Stilt Fence is made of machine woven, spun twine, where the matting is tightly woven and has a 200kg Weight per SqMt, thus giving it an excellent 'rigid' body with a high tensile strength of 60kg/cm (290 lbs/in). It can prevent and arrest small sand particles from penetration and is therefore a good material to prevent sedimentation.

The material is flexible enough to 'work around' at a site while the Coir matting Stilt fence still allows water seepage to take place though it reduces the forces created by the runoff water. It is superior in permeability and water flow rates wherein, it filters the water and retains only the Stilt. With initial proper installation of the fence, the subsequent maintenance of it is negligible. The Coir matting Stilt fence can also be ingeniously applied for the protection of inlet drainage gully or other similar perimeter control works etc.

#### Coir Gabion with Coir Netting





Geo logs of 40 cm x 40 cm rectangular dimension with machine or hand woven nets

Ideally used for; River banks and lake fronts Wetland erosion Steep batters and sand dunes Straw bale alternative Swail drains Building sites

#### Geo Rolls with Coir Netting



These rolls are made out of 100% Coir fiber, stuffed into a handknotted net bag. The density of the roll depends on the diameter of the roll and the weight of the stuffed fiber. The durability of the roll depends largely on the hand knotted geo net cover. Due to its heavy nature, and its flexible character, the rolls can be installed very easily along almost any soil gradient, to prevent soil erosion and sedimentation. The Coir fibers in the geo log absorb 180% of its own weight in moisture. It is also slow in the bio-degradation process, and finally it helps in the creation of a micro-environment for a healthy vegetative growth. It can also be used as a vegetative log to enhance and improve stability, and to facilitate vegetation, which eventually contributes towards long term prevention of erosion. Geo-logs can be used for the prevention of erosion, against wind, wave erosions of shore lines of river and stream embankments (water fronts). These

logs absorb and reduce the effective forces created by waves and wind. For various flow conditions such as the height of flow of water, high velocity and high intermittent flow in channels, stream or river banks, a combination of a number of geo rolls with geo nets or blankets can be designed to provide a very stable series of efficient walls or earth retention and erosion and sediment control structures.

Ideally used for;
River banks and lake fronts
Wetland erosion
Steep batters and sand dunes
Straw bale alternative
Swail drains
Building sites

#### Vertical Fiber Drains



Natural fabricated Vertical Fiber Drains (VFD's) produced from biodegradable materials such as jute and coir have some distinct advantages over conventional polymeric prefabricated vertical drains (CPVDs). For instance, VFD's are not only able to discharge excess pore pressure effectively, but are also beneficial to the environment thanks to their biodegradability.

## ALTERNATE FLOORING – Coir Wall to Wall Carpets



Panama Style Coir Based Natural Carpets are a striking alternative to regular carpeting that can be used as an alternate Wall-to-Wall carpet solution. These carpets create a fashion statement and are exceedingly durable given its tight, snug weave.

These carpets can be tailored to any size, with a selection of either a "Platted" or "Bent" edging.

It can be installed throughout the entire premises, just like any traditional carpet with a rustic look as it is minimally processed, retaining its intrinsic strength and durability.

Coir is resistant to insects, as the natural oils found in its core fibers repel insects. Coir is low maintenance and cost effective as regular vacuuming is all that is recommended.

#### Coir Rugs & Runners

Panama Style Coir Based Carpets are a striking fashion statement which is an alternative to regular carpeting that can be used not only as Wall-to-Wall carpets, but also as Runners & Rugs, which are exceedingly durable given its tight, snug weave, and can be tailor made to any size, with a selection of edgings.

It can be used as a small bedside rug or even a Rug or Runner that would be the size of a bedroom, sitting room or dining room.

Rugs could also be used as an outdoors walkway flooring solution, due to it's anti slip nature.

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#### Coir Platting



Coir/Rubber Door Mats





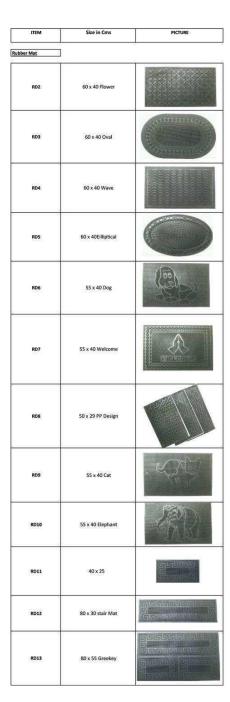
Over the years, several Designs of Anti-Slip Doormats, manufactured out of molded vulcanized rubber with coir embossed have been developed by Inter Coir, primarily for household use. Detailed attention is paid to its qualities of Durability and functionality to withstand extreme Indoor, Outdoor and exterior conditions, in attractive shapes sizes and colours, keeping them pleasing to the eye.

While some of these beautiful doormats are designed and produced lighter, softer and more flexible for interiors such as bathrooms & bedsides, some doormats are designed and produced firm and tough with dirt extracting qualities for Exteriors & Outdoors to withstand extreme conditions

#### Refer annexure for Carpet Product range

#### INTER COIR PRODUCT LIST

	Door Mats	I
ITEM	Size in Cms	PICTURE
Coir Mat		
CD1	55 x 32	
CD2	65 x 35	concentration and applicant absolute the second control of the sec
CD3	70 x 40	STANDARD CONTROL OF THE STANDA
CD4	70 x 40 Half Moon	Control of the Contro
CD5	70 x 40 Rising Sun	
CD6	80 x 50 Rising Sun	
CD7	80 x 50 Rectangular	SECTION SPECIFICATION OF SECTION



ITEM	Size in Cms	PICTURE
PD1	50 x 30	
PD2	60 x 35	
PD3	70 x 40	Was a series of the series of
PD4	70 x 40	
PDS	75 x 45	
PD6	80 × 50	

#### HORTICULTURE PRODUCTS -

#### Compressed Coco Peat Blocks



Coco peat is used as a soil additive. Due to low levels of nutrients in its composition, coco peat is usually not the sole component in the medium used to grow plants. Coco peat primarily consists of the coir fiber pith or coir dust which is obtained by processing coconut husk and removing the long fibers. The coco peat which is obtained can hold large quantities of water, just like a sponge. It is used as a replacement for traditional peat in soil mixtures, or, as a soilless substrate for plant cultivation.

Usually shipped in the form of compressed bales, briquettes, slabs or discs, the end user usually expands and aerates the compressed coco peat by the addition of water. A single kilogram of coco peat will expand to 15 litres of moist coco peat.

#### Coir Rope Topiary



Topiary is the horticultural practice of training live plants by clipping the foliage and twigs of trees, shrubs and subshrubs to develop and maintain clearly defined shapes.

The defined shape of the topiary is lined out of Coir, which enables the plants to grow properly due to its texture, and is an ideal art form, and is a type of living sculpture.ç

#### Plant Support Coir Poles



Coir plant poles are considered a growing aid and are used mainly for growing creepers which require more moisture to grow.

This eco-friendly plant pole makes plant watering easier while ensuring sufficient availability of water for the plant as the pole stays moist for a long time.

Plant poles are made, by closely wrapping coir twine on to either wooden rods or PVC pipes, and as these pipes are porous it helps plants to develop tiny roots which grip natural organic matter of the coir fiber. As

such, the coir pole is an ideal instrument to support creepers and vines, providing the plant with water as it grows higher.

These Coir Poles are widely used in plant nurseries, horticulture farms and indoor and outdoor horticulture décor.

#### Moulded Rubberized Coir Plant Pots



Coir pots are made of biodegradable coconut fibers molded with an organic rubber lining. These coir pots will maintain their original shape for nearly 6-months while plants continue to grow in them, after which the plant with the pot can both be transferred to the ground, and the pot will decompose with time.

Coir pots come in various sizes and a comfortable range of designs to suit any garden space. Coir pots are an ideal eco friendly solution because they do not obstruct irrigation and rainfall and they also do not prevent soil ventilation.

Coir Pot & Cages

	Coir Pot & Cages	
CODE	DISCRIPTION	PICTURE
BK 2S	WALL HANGING POT SMALL	
8K 2M	WALL HANGING POT MEDIUM	<b></b>
BK 2L	WALL HANGING POT LARGE	Û
BK 3	WALL HANGING SEMI SEMI CONE SHAPE	Ŷ
BK 4	WALL HANGING (BREAD SHAPE)	Î
BK 6	HANGING (FLAT BOTTOM)	
BK 7	HANGING (HAT SHAPE)	
BK 85	HANGING (HALF ROUND SMALL)	
BK 8M	HANGING (HALF ROUND MEDIUM)	
BK SL	HANGING (HALF ROUND LARGE)	
BK 9S	HANGING ( CONE SHAPE SMALL)	
вк 9м	HANGING (CONE SHAPE MEDIUM)	
BK 9L	HANGING ( CONE SHAPE LARGE)	

ITEM	DISCRIPTION	PICTURE
CODE		
K5 3	STANDING	H
CP 9	STANDING SMALL	A
CP 13	NURSERY POT	
CP 16W	WALL HANGING	Ù
BK 52	STANDING 3 POT SHAPE	3
55 Z	STANDING 2 POT SHAPE	
BK 511	WALL MANGING 3 POT SHAPE	
BK 512	WALL HANGING 5 POT SHAPE	
SBK 8S/M/L	STANDING COIR POR HALF ROUND	
BM 1	HANGING HART SHAPE	
CART	CART SHAPE	4
CHAIR	ROCKING CHAIR	
GS 4D	HANGING LARGE	
COIR POLE 50Cm	PLANT CREAPER	
COIR POLE 60Cm	PLANT CREAPER	
COIR POLE 75Cm	PLANT CREAPER	

#### Rubberized Coir Basket Liners/Mulch Mats/Weed Mats/Coir Sheets

This is a natural rubberized coir pad, circular in shape with a hole in the middle, making it easier to go around the trunk of a plant. These rubberized Basket liners can be used inside hanging pots and the liners that are used will also greatly impact the aesthetic appeal of the hanging coir pots.



#### Floating Gardens



Floating gardens improve the aesthetic qualities of surrounding environments of the habitats of humans, animals and of plants. Ideally, these should be used wherever a medium of stagnant water is freely available, such as Ponds, Lakes, Millponds, Dew Ponds and Fountains be they natural or artificial. FG's could be used to enhance the beauty and the quality of its immediate environs with the growth of micro organisms and fish culture. Floating gardens are made of a permanent floating section and a temporary non-floating section. The permanent floating section is made out of a very sturdy PVC structure and is designed to float and carry a load. This forms the core structure and on the top, PVC pipes with small dimensions are used to give the final form to the FG. On top of the form, giving structure to the non-floating biodegradable environment friendly Coir logs and the blankets, smallrubberized Coir pots for planting are fixed. A Geo

blanket is then fixed to the centre part of the island and a loose geo blanket is provided for the purpose of growing plants at the nursery level and to be relayed on the top. The outer periphery of the form giving structure is lined with geo rolls with embedded Coir pots.

Plant Coir Grow Bags



Coco peat is used as a fertilizer for horticulture, greenhouse as a growing medium and hydroponics growing etc., The Coco Peat is moulded into a specific shape with a PP lining which is called a "Grow Bag" made to ensure that the plant is grown within the bag.

Having more than thirty five years of experience, we have gained considerable knowledge of the market and carved out the strategies to accomplish its goal in this sphere of business. Timely delivery of goods and the ability to grasp the client's requirements, and our international presence has been possible because of our dedication and commitment towards producing quality products and delivering them on time.

Grow bags are used by our customers for;
Strawberry Coco Coir Grow Bags
Tomato Coco Coir Grow Bags
Pepper | Capsicum Coco Coir Grow Bags
Cucumber | Courgette | Zuccini Coco Coir Grow Bags
Cut Flower | Gerbera | Orchid | Statice | Chrysanthemums Coco Coir Grow Bags

#### Coco Chips



Coco Husk chips are regular slicing of the husk of the coconut in uniform sizes. Coconut Husk (shell) are chopped or cut into size of 1 cm to 3 cm sizes of tolerance +/- 10%. It contains high quality Peat with Fibres to absorb more water. It is used as Mulching Agent. It's Substitute for wood barks etc.

The Coco Husk Chips can be supplied in bulk or compressed block form in a variety of sizes (weights) to suit the buyers requirements.

#### Hand Made Cylindrical Pots



Hand Made Coir based Cylindrical Pots are manufactured from long fibers of the inner husk of coconuts. These fibers are held together by spraying a fine coating of latex, and compressed to form, and are used as pots of a variety of sizes to cater to the various needs of a gardening enthusiast.

Varied heights and diameters of the these pots make them unique and create a fashion statement in both a Home or a commercial establishment. An excellent feature is that these cylindrical pots may be used both indoor and out, giving it a versatile usage.

#### Rubberized Coir Pads



Coir fibres are transformed into sheets and are sprayed with 100% natural latex to provide, rigidity, elasticity and excellent ventilation. Thereafter, these sheets are

placed on a conveyor belt passed through an oven, and finally pressed between two rollers.

The fibres contain closed cells filled with air, which grant the fibre good isolation and resistance against moulding and rottenness in wet environment. They are also flexible, strong and hardly deteriorate at all over time.

Natural Coir fiber with natural rubber latex for bonding. Any width and upto 150mtrs in length. The density around 115kg/cbm and thicknesses of 3.5mm and 7mm.

Yarns & Twines



The Coir yarn is manufactured either with white or brown fiber and is manually or semi mechanically spun. It is used for Manufacture of mats / matting and carpets, rubber based brush mats / matting's, nettings / Geotextiles (land – scalping and on embankments of road construction for prevention of soil erosion).

Made out of best one tie brush fiber (2 ply) with 2 cotton or synthetic threads twisted (or inter woven) for additional strength and durability Coir Yarn is widely demanded by innumerable industries, owing to its attributes like optimum quality and natural properties.

CUSTOMISATIONS –
Coir Cricket Matting



Boasting a High quality snug weave, this Coir cricket matting is absolutely unique in that it is seamless across both its length and breadth, thereby ensuring a smooth delivery for the cricketer. Our Cricket matting can be manufactured to order in varying lengths, making it the perfect choice for cricket pitches in stadiums, clubs, colleges, schools and individual training nets.

#### Room Sound Proofing



InterCoir provides a sustainable solution for sound reduction by the use of its unique method of using a Coir based solution.

The solution is ideally used in TV and Music rooms at home, while commercial establishments such as studios, cinemas and concert halls benefit greatly from our products.

Seasonal Decorations





Going Eco friendly during the Christmas season, is a great way to nurture Friends and Family to consider Recycling with our biodegradable Coir Christmas Collection. Christmas trees handmade with Natural coir or naturally dyed green and red coir twine to keep within the theme. Various Coir ornaments are available to hang onto your Christmas trees as well as Christmas themed Table place mats, coasters and table runners available. Please see attached details.

#### Homeware



InterCoir Ltd, prides itself as a company that evolves with the current trends to offer its trendsetting clientele, coir based home ware, that include, Table Mats, Coasters, Table Runners, Wine Bottle Holders, Serviette Holders, Cutlery

Holders, Laundry Baskets, Table and Cupboard Top Covers, to give their homes a truly eco friendly look.

Apart from domestic use, tailor made solution for Hotels, Restaurants and Bars, give it an earth friendly appearance, with trendsetting sophistication, while

showcasing a style, which is a cut above the rest. Floating Booms for Oil Spills



Coir Containment Booms are an impervious barrier designed to deflect or contain spills or floating debris.

Floating booms and barriers that are the perfect containment solution for any location dealing with displaced silt, sediment, oil or debris. Designed to quickly control spills, erosion, or construction remains, these barriers help keep sites in compliance by containing and preventing the spread of pollution.

Our Coir Containment Boom, is a multipurpose barrier designed to contain pollutants in a water body. The most popular use for the booms

is to limit the spread of trash, plastic, and debris by containing it to a designated area. As a boom manufacturer, InterCoir is committed to designing products that work. We will work with you to produce the best boom barrier for your specific location. Whether at a large job site, or for shoreline seaweed protection, our Containment booms are versatlie enough to suit your need.

Typical uses for Coir Containment boom;

Floating Debris
Branches of Trees
Tires
Trash
Aquatic Plants
Seaweed
Sargassum
Oil spills

#### Coir Baskets



Coir Baskets are made out of a woven coir mat, and coir platting to make the basket stronger. These baskets can be tailor made to clients requirements.

Being a Eco Friendly product, this is an ideal solution for people who value being environmentally friendly and prefer to use Coir as opposed to plastic baskets.

### Sales & Distribution Channels

Local Sales : Key Accounts - Arpico, Keells, Cargills, Damro etc.

Distributors

Wholesalers and Retailers

Institutional Sales

Boutique Hotels, Resort Hotels, Restaurants

Government Institutions Schools and Sports Clubs

Households

Export Sales : Europe

Australia Middle East

Korea / Malaysia / Thailand / Singapore

Canada

### **Manufacturing Process**

The manufacturing process utilizes a mix of machinery and labor. The Company has an equal mix of male and female employees some of whom are well experienced having worked for the company for over 25 years. The Company has perfected its unconventional manufacturing processes over the years to maximize economy.

The main raw materials used are Coir Fiber and Natural Latex both of which are locally produced and freely available. Over the years the Company has developed good relationships with its supply chain empowering them to develop them from cottage industries to small scale enterprises.

InterCoir prides itself for manufacturing bio degradable and eco-friendly 100% Sri Lankan products for the local and export market.

A chart depicting the Coconut Derivatives is given below. The green letters show the raw material components used by Intercoir and the final outcome products.

