



Natural Rubber Futures (RSS3, TSR20)

Factsheet



Types of Natural Rubber

Rubber is mainly used in car tires and materials such as airplane tires, base isolation structures of high buildings, and medical equipment. Despite the mass production of synthetic rubber, natural rubber remains an essential product. Asian countries such as Thailand and Indonesia account for approximately 80% of the world's natural rubber production, and Japan imports natural rubber 100% for its domestic consumption.

The primary natural rubber products traded are Latex, Ribbed Smoked Sheet, and Technically Specified Rubber. Latex is liquid rubber collected from rubber trees.

Ribbed Smoked Sheet Rubber is commonly known as RSS, and it is made directly from latex. Technically Specified Rubber, also known as TSR, is block rubber made by crashing, cleaning, and drying solid rubber. Two types of natural rubber are traded in Osaka Exchange (OSE); Ribbed Smoked Sheet graded **RSS3**, and Technically Specified Rubber graded **TSR20**.

RSS3



TSR20

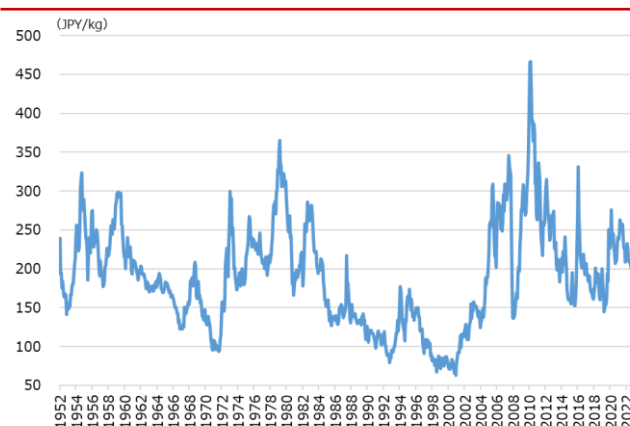


Source: JPX

OSE Natural Rubber Futures

OSE's RSS3 futures have been traded since December 1952. Various domestic and foreign investors have used the contracts, and their futures prices have been recognized as one of the international benchmarks of natural rubber prices. In addition to RSS3 futures, OSE started trading TSR20 futures in October 2018 to meet the growing demand of market players in response to the changes in the natural rubber supply chain structure.

OSE RSS3 Prices of the 6th contract month



Source: JPX

Average Daily Volume and Open Interest

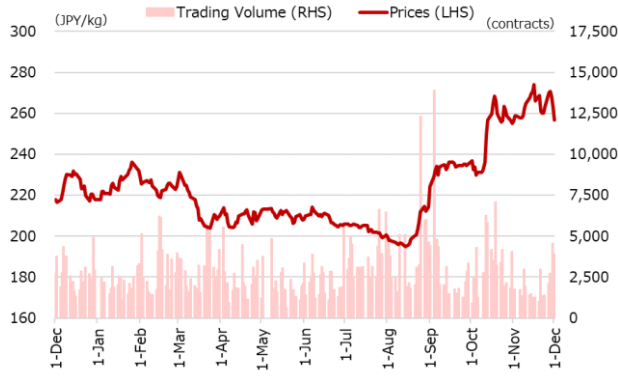
Year	RSS3		TSR20	
	ADV	OI	ADV	OI
2016	9,658	26,392	-	-
2017	8,649	23,350	-	-
2018	6,863	26,491	2,224	2,015
2019	4,974	16,309	1,595	20
2020	4,464	14,266	6	0
2021	2,995	8,420	1	0
2022	2,395	11,857	3	0

Source: JPX



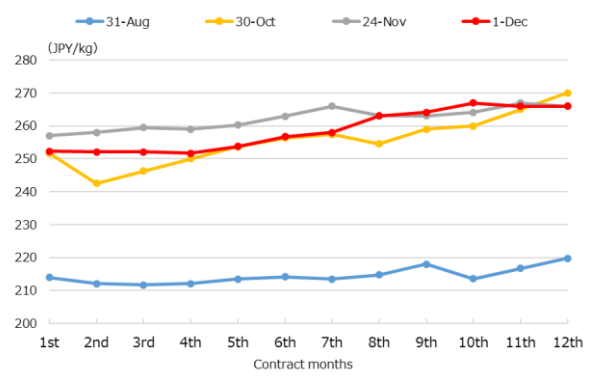
OSE Market Data

RSS3 Prices and Volume



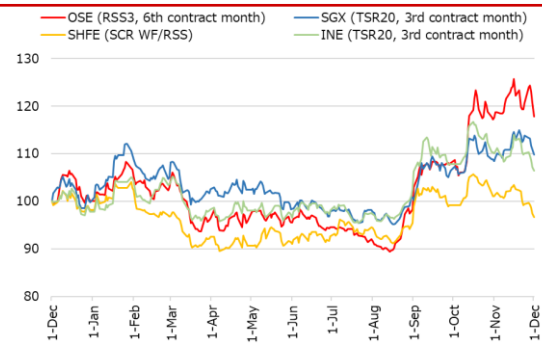
Source: JPX

RSS3 Calendar spread



Source: JPX

Prices comparison (December 1, 2022 = 100)



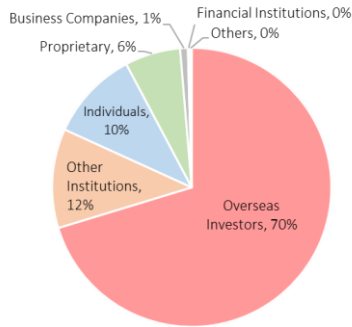
Source: JPX, SGX, SHFE, INE

RSS3 Open Interest (OI)



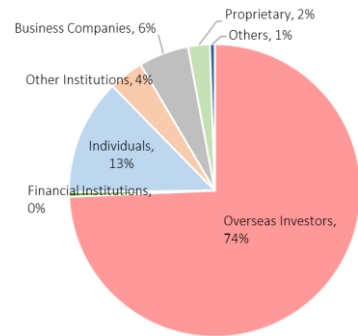
Source: JPX

RSS3 Trading by investor type (Oct 2023)



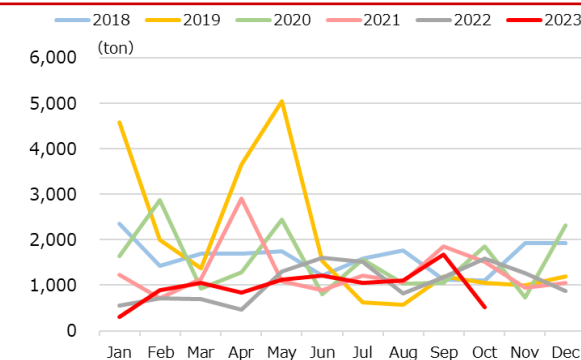
Source: JPX

RSS3 Open interest by investor type (Nov 24, 2023)



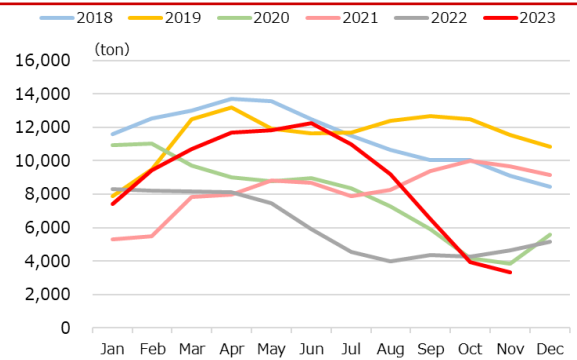
Source: JPX

RSS3 Delivery amount



Source: JPX

RSS3 Warehouse stocks



Source: JPX



Product Specifications (as of December 4, 2023)

	OSE RSS3	OSE TSR20
Ticker Code	Bloomberg: JNA <CMDTY> Refinitiv: 0#JRU CQG: TRU	Bloomberg: B6A <CMDTY> Refinitiv: 0#JRV CQG: TSR
Types	Physically Delivered Futures Transaction	Physically Delivered Futures Transaction
Standard	Ribbed Smoked Sheet (RSS) No.3 in line with international standards	STR 20 produced in approved TSR factories and that meets the STR 20 quality standard as defined by the official organization of Thailand
Contract Size	5,000 kg	5,000 kg
Price Quotation	JPY 0.1 per kg (JPY500 per contract size)	JPY 0.1 per kg (JPY500 per contract size)
Contract Month	Nearest 12 contract months	Nearest 6 contract months
Trading Hours (Japan Time)	Day Session: 09:00- 15:10 Night Session: 16:30- 19:00	Day Session: 09:00- 15:10 Night Session: 16:30- 19:00
Daily Price Limits	1. The price limit range: +/- 10% from the reference price 2. Immediately Executable Price Range (DCB): LTP +/- JPY 5	1. The price limit range: +/- 10% from the reference price 2. Immediately Executable Price Range (DCB): LTP +/- JPY 5
Circuit Breaker	No circuit breaker	No circuit breaker
Position Limits (Separately for long or short positions)	1. Customers: 300 contracts for the current contract month, 600 contracts for the 2nd contract month and 10,000 contracts for all contract months combined 2. Commercials, Investment trusts and Market makers: 400 contracts for the current contract month, 600 contracts for the 2nd contract month and 10,000 contracts for all contract months combined	1. Customers: 500 contracts for the current contract month, 1,000 contracts for the 2nd contract month and 10,000 contracts for all contract months combined 2. Commercials, Investment trusts and Market makers: 1,000 contracts for the current contract month, 2,000 contracts for the 2nd contract month and 10,000 contracts for all contract months combined
Last Trading Day	The fourth business day preceding the Delivery Day	The last business day of the month immediately preceding the delivery month
Non-Auction Transactions (J-NET)	Tick Size: JPY 0.001 Minimum trading unit: 1 unit	Tick Size: JPY 0.001 Minimum trading unit: 1 unit

Source: JPX

Delivery Methods (as of December 4, 2023)

	OSE RSS3	OSE TSR20
Methods of Delivery	Warehouse Delivery with exchanging a warehouse receipt	On-board ship designated by delivery taker (FOB)
Delivery Place	Designated warehouses located in Japan	A port of Bangkok, Laem Chabang or Penang
Other Delivery Methods	Early Delivery, Declared Delivery, Customized Delivery or ADP	Early Delivery, Declared Delivery, Customized Delivery or ADP
Delivery Units	5,000 kg	20,000 kg
Deliverable Grades	RSS No.3 or 4 of International Standard Specifications (INT), deliverable within a year of date of customs clearance	1. STR20 produced in OSE approved TSR factories in Thailand within 3 months from the production date at the time of the delivery 2. Packaging form: Shrink-wrap packing 3. Attaching a quality inspection certificate issued within 3 months at the time of the delivery by the approved factories designated to conduct quality inspection by an official organization designated by Thailand 4. Meeting the latest TSR quality requirements mandated by the official organization of Thailand
Delivery Price	VWAP calculated based on execution prices and volume formed through Individual Auction during the Day Session on the Last Trading Day	VWAP calculated based on execution prices and volume formed through Individual Auction during the Day Session on the Last Trading Day
Delivery Day	Until noon of the last day of each even month except December (the 28th for December).	Delivery needs to be completed by nine business days counting from the Ship Loading Date.

Source: JPX



OSE RSS3 Packing House List (as of December 4, 2023)

Shippers	Shipper code	Packer code	Location
THAI HUA RUBBER	THR	RY	7/2 MOO 4 TAMBON KRASHED, RAYONG
	THR	RX	85/1 BANGNA-TRAD RD., TAMBON TUBMA, RAYONG
	THR	HD	26/2 MOO 4 KANCHANAWANIT RD., TAMBON LUNG-LA, SADAO
	THR	TGS	155 MOO 5 BANGRAK RD., TAMBON TUBITANG, TRANG
	THR	KB	338 MOO 1 TAMBON KHOA-KRAM, KRABI
	THR	UD	148 MOU 15 BAN PHON GNAM, TUM BON PHON GNAM, UDONTHANI
PIANPRADIT RUBBER	PPR	SN	42/3 MOO 4 T. BANGKUNG, A. MUANG, SURATTHANI
L.T.R. TRADING	LTR	CNL	541 MOO 3 T. CHANDI, A. CHAWANG, NAKORNSRITHAMMAR
SOUTHLAND RUBBER	SLR	SN	148 MOO 6, SURAT-NASAN RD., NAKHAMTIA, SURATTHANI
	SLR	HD	23/8 SUNTIRAJ RD., HATYAI
	SLR	TSU	99/9 MOO 4, THUNGSONG-RONPIBOON RD., THUNG SONG
	SLR	HX	99/9 MOO 6, HATYAI-KOOHA RD., BANGLUM
	SLR	YL	99/9 PHETKASAEM RD., MOO 1 THASAP, YALA
	UMR	TG	112/1 TRANG-SIKAO RD., MOO 1, TAMBOL NATOMING, TRANG
SRI TRANG AGRO-INDUSTRY	STA	HDM	99 MOO 3, TAMBON SAM NATKHAM, SADAO
	STA	TST	324/9 MOO 11, T. NABON, A. NABON, NAKORNSRITHAMMARAJ
	STA	TG	13/1 JINGJIT RD., TAMBOL TABTIANG, TRANG
	STA	HD	99/3 M.7, KANJANAVANIT RD., PANGLA, SADAO
	STA	HDO	207/1 PADANG BESAR RD., SADAO
	STA	HD	85 PADANG BESAR RD., SADAO, SONGKHLA
SRIJAROEN RUBBER	SJR	TS	299/300 MOO 2, NABON, NAKORNSRITHAMMARAJ
VON BUNDIT	VON	SN	65 TAMBON KHUNTALAE, AMPHUR MUANG, SURATTHANI
	VON	SX	97/2 MOO 3, SAI-ASIA 41 RD., TAMBON TARRONGCHANG, SURATTHANI
	VON	UT	20/5 GOMARAPAT ROAD, PHUKET 83000
	VON	VSD	87 Village no.2 Phang-la Sub-district, Sadao District, Songkhla Province
VON BUNDIT CHUMPHON	VON	CH	211MOO 6, T. SUBANAN, TASAE, CHUMPHON 86140
TONG THAI RUBBER	TT	RYT	234/15 MOO 5 TAMBON CHENGNEEN, SUKHUMVIT RD., RAYONG
	TT	CB	28/3 M.I.T. Khaowongkot, A. Kheang Hangmeao, Chantaburi 22160
SISAWAD LTD. PART.	SIW	TS	109 THUNG SONG-NABORN RD., THUNG SONG, NAKORNSRITHAMMARAJ
	SIW	TGP	236 KANTANG RD., TRANG
TONG THAI N.B.	TTN	TST	324/9 MOO 11, T. NABON, A. NABON, NAKORNSRITHAMMARAJ
A.T.S. RUBBER	ATS	TS	99 MOO 6, NABON, NAKHON SI THAMMARAT
SOUTH-EAST RUBBER	SER	HD	108/4 MOO 8, KANCHANAVANICH RD. PATONG, HATYAI
MITRATHAI HOLDING	MTH	CPM	384 MOO4, T. BANKUAN, A. LANGSUAN, CHUMPHON
NIYOM RUBBER	NY	HD	298/2 KAMJANAVANICH, PANGLA, SADAO SONGKHLA
THONG THAI A.S. Co. LTD.	TAS	TST	324/11 MOO 3, NABON, NAKORNSRITAMMARAT
YONGLONG Co., Ltd.	YLR	SR	181 MOO 16, TAMBOL NABUA, AMPHUR MUANG, SURING
GRAND RUBBER CO., LTD.	GR	CB	28/3 M.1 T. Khaowongkot, A. Kheang Hangmeao, Chantaburi, 22160
G T RUBBER CO., LTD.	GTR	TST	324/21 MOO 11, NABON, NAKORNSRITHAMMARAJ
RUBBER PLANET CO., LTD.	RP	RY	99 M.7 T. KLANG A. MUANG, RAYONG, 21160
MAHAKIT RUBBER CO., LTD.	MR	RY	69 MOO 2, BANGNA-TRAD ROA, MABKHA, NIKOMPATTANA, RAYONG, 21180
NORTHEAST RUBBER PUBLIC	NER	—	398 Moo 4, Tambol Kokma, Prakhonchai District, Buriram Province, 31140
SUPARK CO., LTD.	SUP	SP	158 M.10 TANGKWIAN, KLAENG, RAYONG, 21110

Source: RTAJ "Packing House List"

RSS3 Designated Warehouses (14 companies and 31 warehouses, as of December 4, 2023)

Provinces	Companies	Warehouses
Tokyo	Kamigumi Co., Ltd.	Ohi Logistic Center
	Mitsui-Soko Co., Ltd.	Tokyo Port Office I (World Carbo Distribution Center Warehouse), Ohi Office
Kanagawa	SAGAMI TRANSPORTATION & WAREHOUSE CO., LTD	Headquarters (Yokosuka) Warehouse, Honmoku Futo Warehouse
	Suzue Corporation	Honmoku Futo A Tottei Eigyosho, Honmoku Futo C Tottei Eigyosho
	The Sumitomo Warehouse Co., Ltd.	Minami Honmoku Terminal No.1 (Honmoku/Honmoku 2/Shin Yamashita), Daikoku Terminal
	TOYO WHARF & WAREHOUSE CO., LTD.	Higashi Ohgishima Warehouse
	Mitsui-Soko Co., Ltd.	Honmoku Office (Chiwaka Warehouse/Honmoku Futo Warehouse/Kamomecho Warehouse), Yokosuka
	Mitsubishi Logistics Corporation	Daikoku Daiichi Eigyosho
	YANAN Co., Ltd.	Daikoku Futo Eigyosho Warehouse
	YOKOHAMA SHINKO WAREHOUSE INC.	Daikoku Warehouse
Chiba	Toyo Logistics Co.,Ltd.	Ichikawa Eigyosho
	Fuji Sogyo K.K.	Truck Center (Ichihara)
	The Sumitomo Warehouse Co., Ltd.	Chiba Shinminato Warehouse
Aichi	Kawanishi Warehouse Co., Ltd.	Nagoya Port Distribution Center Office (Higashihama)
	Toyo Logistics Co.,Ltd.	Inaei Warehouse, Kinjo Futo Warehouse
	Mitsui-Soko Co., Ltd.	Chikko Office
	Mitsubishi Logistics Corporation	Kinjo Eigyosho (Kinjo Warehouse/Inaei Warehouse), Asuka Eigyosho
Hyogo	Mitsui-Soko Co., Ltd.	Shinko Office
	Shinozaki Warehouse Co., Ltd.	Hyogo Operation Center

*Freight Differential: Aichi=JPY8/kg, Hyogo=JPY12/kg

Source: JPX "Operational Procedures for Settlement by Delivery related to Commodity Futures Contracts"

TSR20 Approved Factories (23 Factories, as of December 4, 2023)

Factory code	Factories (Manufacturers)	Location
BD1	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	THUNGSONG, THAILAND
BD2	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	SIKAO, THAILAND
BD5	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	UBON RATCHATHANI, THAILAND
BQ	NAM HUA RUBBER CO., LTD	SADAO, THAILAND
CI	RUBBERLAND PRODUCTS CO., LTD	BUNGKARN, THAILAND
AG	THAITECH RUBBER CORP., LTD	HATYAI, THAILAND
BJ1	SOUTHLAND RESOURCES CO., LTD	THAMPHANNARA, THAILAND
BJ2	SOUTHLAND RESOURCES CO., LTD	BANGKLAM, THAILAND
BJ4	SOUTHLAND RESOURCES CO., LTD	BEUNGKAN, THAILAND
BJ5	SOUTHLAND RESOURCES (CHUMPHON) CO., LTD	CHUMPHON, THAILAND
AJ1	VON BUNDIT CO., LTD	SURATTHANI, THAILAND
AJ3	VON BUNDIT CO., LTD	UDONTHANI, THAILAND
AZ	GUANGKEN RUBBER (SATUN) CO., LTD	SATUN, THAILAND
CP	GUANGKEN RUBBER (MEKONGRIVER) CO., LTD	UDONTHANI, THAILAND
DB	GUANGKEN RUBBER (THAI SOUTHERN) CO., LTD	SURATTHANI, THAILAND
AX	HUA TAI RUBBER CO., LTD	SADAO, THAILAND
BK	THAI HUA RUBBER PUBLIC CO., LTD	RAYONG, THAILAND
CR	THAI HUA RUBBER PUBLIC CO., LTD	UDONTHANI, THAILAND
BN2	THAI HUA RUBBER PUBLIC CO., LTD	PHITSANULOKE, THAILAND
BS	THAIMAC STR CO., LTD	KRABI, THAILAND
CA	SIN TONG THAI RUBBER CO., LTD	RAYONG, THAILAND
BD6	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	PHITSANULOK, THAILAND
BD7	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	SAKAE, THAILAND
BD8	SRI TRANG AGRO-INDUSTRY PUBLIC CO., LTD	KALASIN, THAILAND

Source: JPX "Operational Procedures for Settlement by Delivery related to Commodity Futures Contracts"

Rubber Futures Markets in the World

Natural Rubber futures are traded mainly at Asian exchanges: the Osaka Exchange, Shanghai Futures Exchange (SHFE) and its subsidiary Shanghai International Energy Exchange (INE), Singapore Exchange (SGX), Thailand Futures Exchange (TFEX), Indian Commodity Exchange (ICEX) and Multi Commodity Exchange (MCX) in India.

Major exchanges listing Natural Rubber futures

Countries	Exchanges	Types	Deliverable grades from
Japan	Osaka Exchange (OSE)	RSS3 TSR20	Thailand, etc. Thailand
China	Shanghai Futures Exchange (SHFE) Shanghai International Energy Exchange (INE)	SCR WF/RSS3 TSR20	China, Thailand, Indonesia, Malaysia, Sri Lanka China, Thailand, Indonesia, Malaysia
Singapore	Singapore Exchange (SGX)	RSS3 TSR20	Thailand Indonesia, Malaysia, Thailand
Thailand	Thailand Futures Exchange (TFEX)	RSS3	Thailand
India	Indian Commodity Exchange (ICEX) Multi Commodity Exchange (MCX)	RSS4	India

Source: JPX, SHFE, INE, SGX, TFEX, MCX

Product specs comparison (as of December 4, 2023)

	OSE	SGX	SHFE	INE
Major Product	RSS3	TSR20	SCR WF / RSS3	TSR20
Trading Currency	JPY	USD	RMB	RMB
Contract Size	5,000 kg	5,000 kg	10,000 kg	10,000 kg
Contract Month	Nearest 12 contract months	Nearest 12 contract months	10 contract months (Jan, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov)	Nearest 12 contract months
Active Months	5 th and 6 th contract months	2 nd , 3 rd and 4 th contract months	Delivery months of Jan., May and Sep.	2 nd , 3 rd and 4 th contract months
Trading hours (Local time)	09:00- 15:15 16:30- 19:00	07:55- 18:00	09:00- 11:30 13:30- 15:00 21:00- 23:00	09:00- 11:30 13:30- 15:00 21:00- 23:00
Price Quotation	JPY 0.1/kg	US cent 0.1/kg	RMB 5/metric ton	RMB 5/metric ton
Daily Price Limits	+/- 10% from the reference price (the settlement price of the previous trading day)	Trigger a circuit breaker if the price moves +/- 10% from the previous day's (there shall be no price limits for the remainder of the trading hours for the day)	+/- 3% from the settlement price of the previous trading day	+/- 5% from the settlement price of the previous trading day
Last Trading Day	The fourth business day preceding the Delivery Day	Last day of trading of the month preceding the Delivery Month	The 15th day of the Delivery Month	The 15th day of the Delivery Month
Settlement Basis	Physical Delivery	Physical Delivery	Physical Delivery	Physical Delivery
Deliverable grades from	Thailand, etc.	Indonesia, Malaysia, Thailand	China, Thailand, Indonesia, Malaysia, Sri Lanka	China, Indonesia, Malaysia, Thailand
Methods of Delivery	Warehouse Delivery in Japan	FOB or Warehouse Delivery at Buyer's option	Warehouse Delivery in China	Warehouse Delivery in China
Delivery Units	5,000 kg	20,160 kg	10,000 kg	100,000 kg
Average Daily Volume (2022)	2,395	7,487	329,088	56,164
Open Interest (End of 2022)	11,857	54,884	307,986	87,066

Source: JPX, SHFE, INE, SGX



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