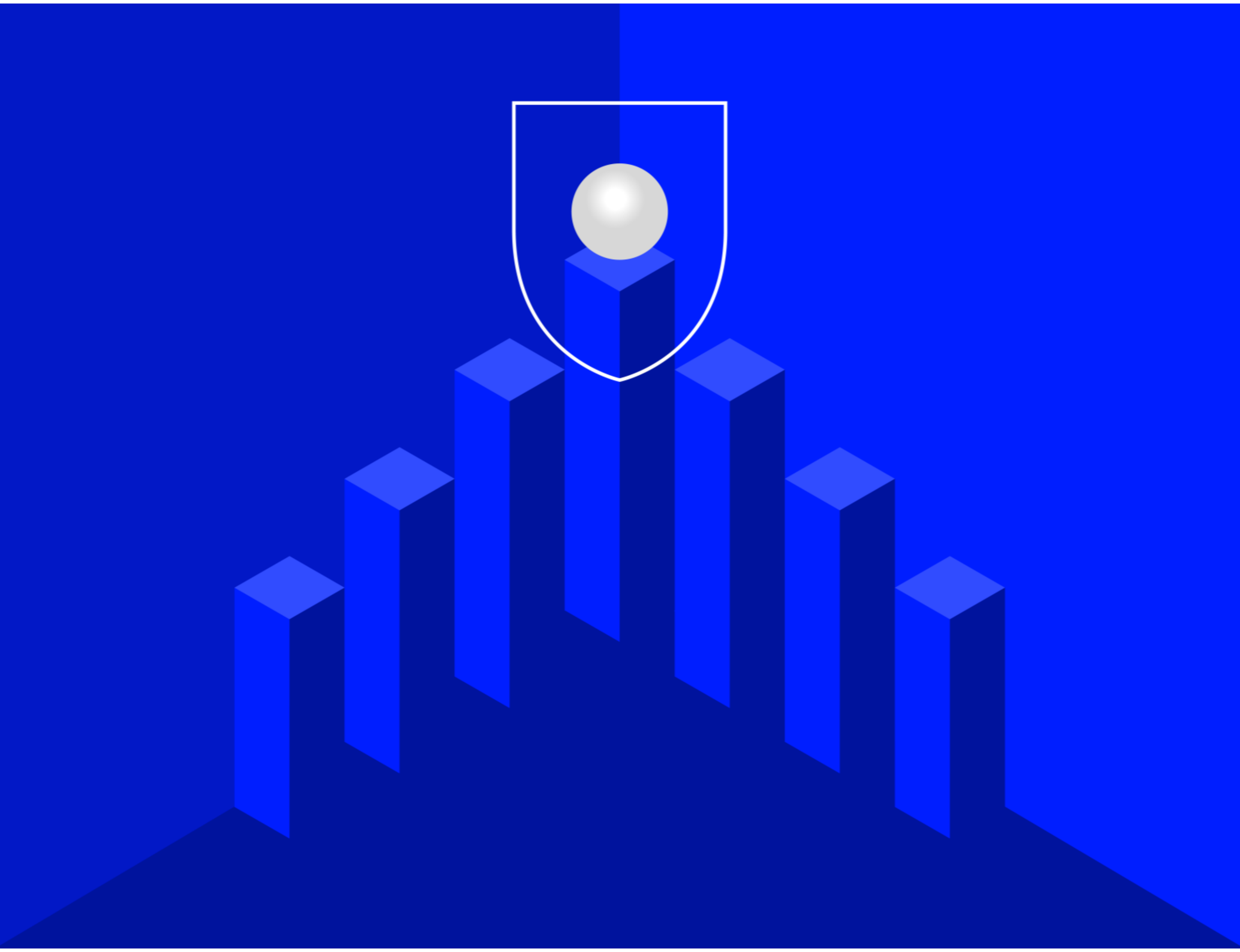
CORPORATE

# TQ501 – GUIDE TO REFERENCE DATA SERVICES

Issue 5.1.2
01 August 2024



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# Contents

# 1.0 Introduction

## 1.1 Purpose

The purpose of this document is to provide an overview of the reference data service available on the Turquoise Millennium Exchange platform.

Turquoise has standardised the reference data model to those used across other LSEG, London Stock Exchange Group venues. Files not listed in the document will no longer be supported.

## 1.2 Readership

This document outlines the reference data services available on Millennium Exchange.

When read in conjunction with the message specifications it is intended that the document provide all of the details for Turquoise customers to develop to the new services.

This document is particularly relevant to trading and technical staff within Turquoise's member firms, information vendors and other market participants interested in receiving Turquoise reference data.

## 1.3 Document series

This document is part of a series of technical documents providing a holistic view of full trading and information services available, which can be found on the Turquoise website via the 'Document Library'.

### Interfaces and information dissemination

For further information regarding Turquoise connectivity, trading and subscription to market data, please refer to the following documentation:

- TQ102 – Connectivity Guide
- TQ103 – Trading Technical Parameters
- TQ201 – Trading Gateway (FIX 5.0) Specification
- TQ202 – Post Trade Gateway (FIX 5.0) Specification
- TQ203 – Drop Copy Gateway (FIX 5.0) Specification
- TQ301 – Trading Gateway (Native) Specification
- TQ501 – Guide to Reference Data Services (this document)
- TQ502 – Guide to Purchase and Sales File

### Certification and Testing Services

For further information regarding Certification of Participant's software and ongoing testing obligations with Turquoise, please refer to the following documentation:

- TQ601 – Guide to Certification
- TQ602 – Certification Report
- TQ603 – Guide to Testing Services

### LSEG Group Ticker Plant

For further information regarding subscription to Turquoise market data from the Group Ticker Plant (GTP), please refer to the following documentation which can be found on the GTP website via the 'GTP Documentation Library':

- GTP001 – Product Guide
- GTP002 – Technical Guide
- GTP003 – Statistics Guide
- GTP004 – Parameters Guide
- GTP005 – Testing Service Guide
- GTP006 – External Source Guide
- GTP008 – Market Attributes Guide

## 1.4 Document history

This document has been through the follow iterations:

| Issue | Date | Description |
|---|---|---|
| 1.0 | 08 July 2010 | First issue of this document published via the Turquoise website and distributed to customers. |
| 1.1 | 03 August 2010 | Addition of FTP site details. |
| 1.2 | 13 August 2010 | Correction of Multicast ID field name.<br>Addition of Reference Price field. |
| 1.3 | 24 August 2010 | Clarification of ‘Access to the service’. |
| 1.4 | 22 September 2010 | Addition of alternative Instrument and Price Tick files. Correction of IP address for Access to the Service. |
| 1.5 | 23 September 2010 | Clarification of IP address file structure. |
| 1.6 | 12 October 2010 | Alteration of Reference Price definition. |
| 1.7 | 30 March 2012 | Added connectivity details for reference data via Extranex.<br>Updated login credentials for FTP/SFTP sites. |
| 1.8 | 25 April 2013 | Updated connectivity details for new location. |
| 1.9 | 01 July 2013 | Added new target IP 194.169.9.158. |
| 2.0 | 18 September 2013 | Updated to include new segment structure. |
| 2.1 | 17 October 2013 | Amendment to the following section: 2.4.1. |
| 2.2 | 24 October 2014 | Changed reference of ITCH to MITCH. |
| 2.3 | 13 July 2015 | 2.3 Addition of Block Discovery Minimum Indication file on SFTP/FTP.<br>2.7 Block Discovery Minimum Indication file format. |
| 3.0 | 13 July 2015 | Guide version 3.0 details the New Reference Data Service for Turquoise Millennium Platform.<br>1.0 Introduction of new service and purpose.<br>2.2 New Model and IP addresses.<br>2.3 Service Parameters.<br>2.4 New Directories.<br>2.5 MD5 Encryption.<br>2.6 Parallel run with existing service.<br>2.4, 3.6 Addition of Block Discovery Minimum Indication file on SFTP/FTP. |
| 3.1 | 28 July 2015 | 2.4 Directories update as the reference data credentials are dropped into the outgoing folder. |
| 3.2 | 04 August 2015 | 2.2.3 TQ_FTP_refdata generic username will be used for both SFTP and FTP. |
| 3.3 | 13 August 2015 | Updated for Block Discovery file changes.<br>1.1 – Changed file name description from Minimum Block Size to Minimum Block Indication Value.<br>2.4 – Changed file name of Block Discovery Min Indication Value file.<br>3.6.1 – Changed file name.<br>3.6.1 – Added fields: Minimum Indication Value, Minimum BDN Value, Min MEV for Indication, Min MEV for BDN.<br>(Changes below for version 3.3 are highlighted in red and identified using a red sidebar). |
| 3.4 | 24 December 2015 | 3.6.1 – Added field: Price Test Tolerance. |

| Issue | Date | Description |
|---|---|---|
| 3.5 | 27 January 2016 | 3.6.1 – Price Test Tolerance field has been de-scoped and is reserved for future use. |
| 3.6 | 13 May 2016 | 2.4 – Updated to include filename for Turquoise TrackInsight™ A-list file.<br>3.7 – Added section for Turquoise TrackInsight™ A-list file.<br>3.7.1 – Added file layout for YYYYMMDD_TRQX_TurquoiseTrackInsightETFs.csv. |
| 3.7 | 30 August 2016 | Updated Turquoise to Turquoise Plato™ where appropriate for Dark Midpoint Order Book and Turquoise Plato™ Block Discovery services, and updated Turquoise to Turquoise where appropriate. |
| 3.8 | 20 June 2017 | The following changes have been made to aid clarity and to support the changes in the Release 9.2 (MiFID II compliant) upgrade:<br>2.4, 3.3.2, 3.5.2 – Removed the layout and references to the legacy Tq_Eq_RefFile.csv and Tq_Eq_TickFile.csv files.<br>3.3.1 – Replaced 'Trading Parameter ID' with 'Price Tick Table ID'. Replaced 'Min Reserve Order Value' with 'Pre-Trade LIS Value (Currency)'. Renamed 'ADT' to 'ADT (EUR)'. Added the following new fields to the end of the file: 'Visibility', 'MiFIR Identifier', 'MiFIR Subclass', 'Static Reference Price Collar Percentage', 'Dynamic Reference Price Collar Percentage', 'Liquid', 'ADT (Currency)', 'ADNT ', 'RPW Allowed ', 'FISN', 'Max Order Value Lit (Currency)', 'Max Order Value Dark (Currency)', 'Notional Currency', 'Price Notation', 'Denominated Par Value'.<br>3.6, 3.7 – Renamed 'LIS Limit (Currency)' to 'Pre-Trade LIS Value (Currency)'. Renamed 'Tick Table' to 'Price Tick Table ID'. |
| 3.9 | 27 July 2017 | The following changes have been made to aid clarity:<br>3.3.1 – Corrected enum values for the 'Liquid' field. Corrected field name 'Post Trade Parameters ID' to match the heading in the file. Clarified that the 'Country of Register' field is not in use. |
| 4.0 | 22 August 2017 | The following changes have been made to aid clarity:<br>3.3.1 – Clarified 'Max Order Value Dark (Currency)' behaviour.<br>3.3.1, 3.7 – Clarified 'Pre-Trade LIS Value (Currency)' behaviour. |
| 4.1 | 13 September 2017 | 3.3.1 – The new field ''Max Order Value Lit Auction (Currency)' has been added for future use. |
| 4.1.A | 25 September 2017 | 3.3.1 – The new field 'Max Order Value Lit Auction (Currency)' has been marked for Turquoise Lit Auctions™ use. |
| 4.2.A | 2 November 2017 | 3.3.1 – The description of the following fields have been updated for more clarity: ADT (EUR), ADT (Currency) and MiFIR Identifier. |
| 4.3.A | 15 November 2017 | 3.1 – Removed the layout and references to the legacy Tq_Ed_RefFile.csv and Tq_Eq_TickFile.csv files. |

| Issue | Date | Description |
|---|---|---|
| 4.4 | 24 October 2019 | 1.1 Clarified that the files not listed in the document will no longer be supported.<br>3.3.1 – New fields added to indicate which order books are supported per instrument and can be used instead of or in addition to 'Visibility' field:<br>Max Order Value NYLON Cash Order Book (Currency) Turquoise Lit Order Book.<br>Turquoise Plato Order Book.<br>Turquoise Plato Lit Auctions Order Book Turquoise NYLON Cash Order Book.<br>3.3.1, 3.5.1, 3.6 – 'Visibility' field will not be supported anymore and will be set to NULL.<br>1.2 – Reference to TQ401 – MITCH Level-2 Market Data Specification was removed.<br>From this version onwards, the changes will be highlighted in red instead of using the side bars.<br>Update for rebrand of Turquoise Lit Auctions™ Order Book to Turquoise Plato Lit Auctions™ Order Book. |
| 4.5 | 21 February 2020 | 2.4 Addition of HK members instrument file.<br>3.3.2 Format of the HK members instrument file. |
| 4.6 | 07 February 2022 | 2.2.2 Added new Data Centre connectivity details. |
| 4.7 | 12 May 2022 | 2.2 Removed references to FTP and Internet access from new Data Centre details. |
| 4.8 | 05 October 2022 | 2.2.3 Credentials to access the FTP/SFTP sites can be requested from Technical Account Management Team. |
| 4.9 | 03 April 2023 | 2.2, 2.2.1, 2.2.2, 2.3 Removed descriptions related to the old Data Centre. |
| 5.0 | 15 January 2024 | 3.3.2 Addition of 1 new column for YYYMMDD_TQEX_Instrument.csv file. |
| 5.1 | 18 January 2024 | 3.3.1, 3.3.2 Multicast channel ID will be blank. The market data channel for instruments can be found in the GTP001 Product Guide going forward.<br>3.3.1 Addition of 2 new columns for YYYMMDD_TRQX_Instrument.csv file. |
| 5.1.1 | 17 April 2024 | 3.3.1 Removal of 2 Crypto related columns for YYYMMDD_TRQX_Instrument.csv for the April 27th release. It will be added back for the Crypto release for which the date is not fixed. |
| 5.1.2 | 01 August 2024 | 3.3.1 Addition of 2 Crypto related columns for YYYMMDD_TRQX_Instrument.csv |

In subsequent issues, where amendments have been made to the previous version, these changes will be highlighted in red.

## 1.5 Enquiries

Please contact either Market Operations or your Technical Account Manager if you have any questions about the Millennium Exchange services outlined in this document.

Market Operations can be contacted at:

- Telephone: +44 (0)20 7382 7676
- Email: market.operations@tradeturquoise.com

Technical Account Managers can be contacted at:

- Telephone: +44 (0)20 7797 3939
- Email: londontam@lseg.com

# 2.0 Reference Data Service

## 2.1 Calendar and service hours

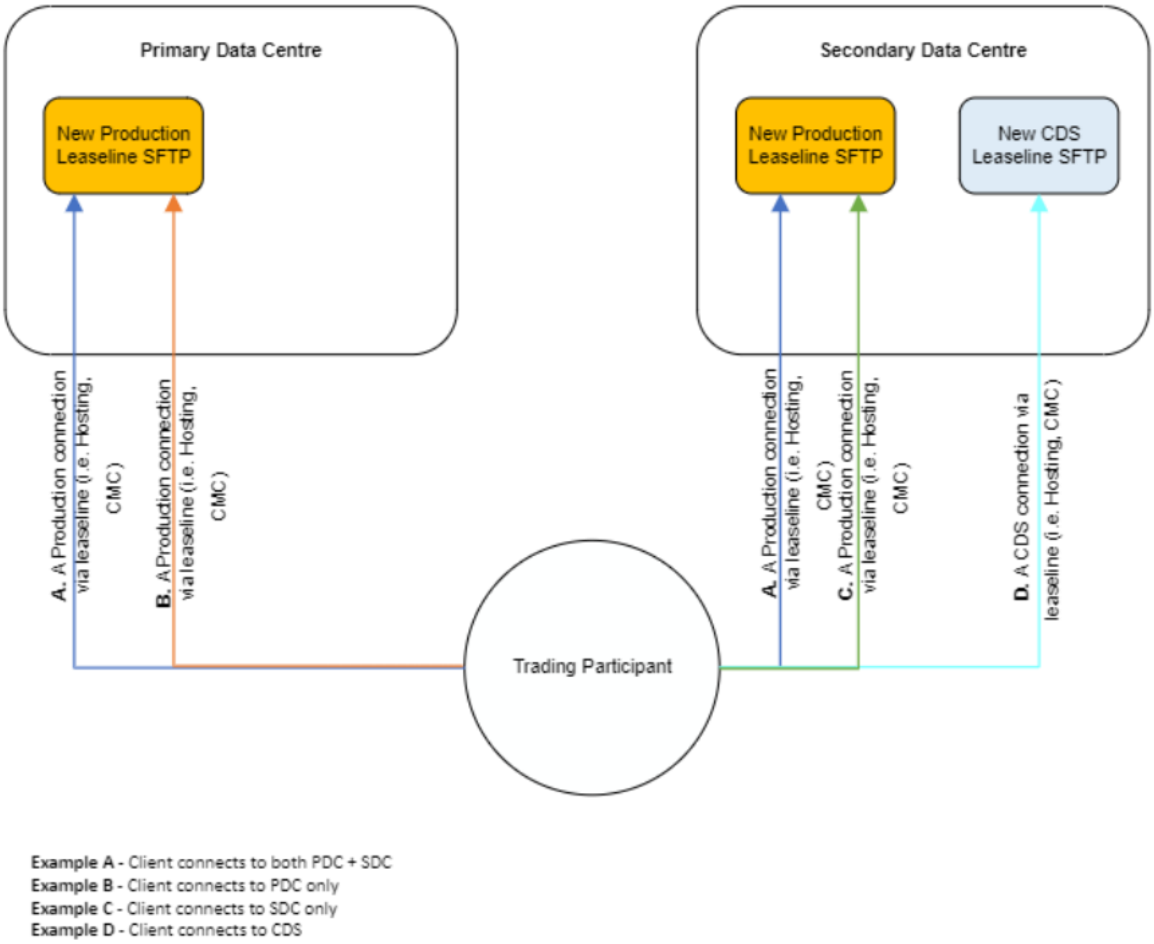
Market Reference Data files are available on published trading days. This data will be available by 06:00 UK time.

## 2.2 Access to the service

Turquoise Reference Data files can be downloaded via Secure File Transfer Protocol (SFTP). Customers can access the Turquoise SFTP servers via Hosting and CMC.

### 2.2.1 Availability model

The reference data servers will operate on a hot-hot configuration at our Primary Data Centre (PDC) and Secondary Data Centre (SDC). As reference data is readily available at both sites, clients can choose whether they wish to retrieve the reference data from PDC and/or SDC. Clients can be simultaneously connected to both PDC and SDC.




### 2.2.2 Target IP addresses

The below list details the target IP and ports for the new Reference Data service:

| | Hosting & CMC | |
|---|---|---|
| **Environment** | **sFTP** | **Port** |
| **New CDS** | 194.169.6.44 | 22 |

| | | |
|---|---|---|
| **New Prod PDC** | 194.169.6.12 | 22 |
| **New Prod SDC** | 194.169.7.12 | 22 |

### 2.2.3 User credentials

The credentials to access all the services can be requested from the Technical Account Management Team.

## 2.3 Service parameters

### 2.3.1 SFTP parameters

| Name | Description | New |
|---|---|---|
| Log-in grace time | Time allowed to authenticate after connecting before being automatically disconnected by the system. | 60 s |
| Max login attempts | Number of failed login attempts allowed before being automatically disconnected by the system. | 3 |
| Max sessions | Number of concurrent authenticated sessions allowed per source IP. | 10 |
| Idle session timeout | Time an authenticated session can be left idle before being automatically disconnected by the system. | 300 s |

## 2.4 Directory structure

The service provides a number of separate market reference data files needed to provide all the necessary data for the Turquoise markets on Millennium Exchange. There is a single directory for these files on each of the Production and CDS reference data services. Within this directory, clients will see the six current day files and an archive folder with historic files:

| TYPE | FILE NAME | DIRECTORY |
|---|---|---|
| Instrument | YYYYMMDD_TRQX_Instrument<br>YYYYMMDD_TQEX_Instrument | /PublicRefData |
| Hong Kong members Instrument file | YYYYMMDD_TRQX_Instrument_HK_Members | /PublicRefData |
| Calendar | YYYYMMDD_TRQX_Calendar<br>YYYYMMDD_TQEX_Calendar | /PublicRefData |
| Price Tick | YYYYMMDD_TRQX_PriceTick<br>YYYYMMDD_TQEX_PriceTick | /PublicRefData |
| Turquoise Plato Block Discovery™ Min Indication Value | YYYYMMDD_TRQX_BlockDiscoveryMinValues<br>YYYYMMDD_TQEX_BlockDiscoveryMinValues | /PublicRefData |
| Turquoise TrackInsight™ A-list | YYYYMMDD_TRQX_TurquoiseTrackInsightETFs<br>YYYYMMDD_TQEX_TurquoiseTrackInsightETFs | /PublicRefData |

## 2.5 Additional features

**MD5 Encryption** – Each file will have an MD5-encrypted checksum for clients to use for their information systems to ensure data integrity. This is an optional feature for clients to use.

# 3.0 Data files

## 3.1 Data layout

The files of the format YYYYMMDD_TRQX and YYYYMMDD_TQEX are created in accordance with the following specifications:

| File format | Csv |
|---|---|
| Fields delimiter | ; (semicolon) |
| Decimal symbol | . (point) |
| Digit grouping symbol (thousands separator) | None |
| Date Fields format | yyyymmdd |

The field lengths identified in the record layout below are maximum lengths. As the data is delimited, fields can be shorter than the maximum length defined.

Note: Turquoise may amend these values at any time following one week's prior written notice. Any changes will be communicated via a Market Notice.

## 3.2 File formats

### 3.2.1 Key to Field Type

| | |
|---|---|
| STRING | An alphanumeric field. |
| ENUM | A look-up value against a table of options. |
| F64 | Floating point 64-bit number encoded as ASCII. |
| I32 | 32-bit Integer number encoded as ASCII. |
| Decimal | 12-character integer with up to two decimal places. |

## 3.3 Instrument file record layout

The following sections provide details on instrument data available within the service:

### 3.3.1 YYYYMMDD_TRQX_Instrument.csv

| Field | Type (length) | Description | |
|---|---|---|---|
| Instrument ID | STRING (20) | Instrument ID, unique identifier across the system. | |
| Calendar ID | STRING (30) | Unique key used to link the instrument to the market calendar to be used. The details of the calendar are maintained in the Calendar file. | |
| Segment Code | STRING (4) | The code identifying the segment. Turquoise segments are currently split by settlement location. | |
| Post Trade Parameters ID | STRING (30) | Not currently in use by Turquoise. | |
| Price Tick Table ID | STRING (30) | Identifier for the Price Tick which is used by the Instrument. | |
| ISIN Code | STRING (12) | The International Security Identification Number (ISIN).<br>This will be in line with ISO 6186. | |
| Deletion Date | STRING (8) | Date on which the instrument will be deleted. Format yyyymmdd. This field may be blank. | |
| First Trading Date | STRING (8) | Instrument’s First Trading Date. Format yyyymmdd. | |
| Instrument Status | ENUM | Whether the instrument is active for trading, suspended from trading or not available for trading (inactive). | |
| | | Possible values: | |
| | | **Value** | **Meaning** |
| | | 0 | Active |
| | | 1 | Suspended |
| | | 2 | Inactive |
| | | 3 | Halted |
| Clearing Type | ENUM | Indicates whether the instrument is cleared or not. | |
| | | Possible values: | |
| | | **Value** | **Meaning** |
| | | 0 | Not Cleared |
| | | 1 | Cleared |

| Field | Type (length) | Description | |
|---|---|---|---|
| Delete Orders at EOD | ENUM | Delete orders from the order book at the End of the day (EOD) Possible values: | |
| | | Possible values: | |
| | | **Value** | **Meaning** |
| | | 0 | No |
| | | 1 | Yes |
| Exchange Market Size | I32 | Not currently in use by Turquoise. | |
| Pre-Trade LIS Value (Currency) | F64 | The pre-trade LIS threshold of the instrument, specified in the instrument's trading currency. The minimum consideration value for hidden orders. | |
| Minimum Order Size | F64 | Not currently in use by Turquoise. | |
| Last Trading Day | STRING (8) | Not currently in use by Turquoise. | |
| Lot Size | F64 | This field defines the size increment of an order entered by a participant. Orders may be entered only in multiples of the Order Lot Size for a particular instrument ID. | |
| Security Type | STRING (2) | Provides more granular groupings of instruments. | |
| | | Possible values: | |
| | | **Value** | **Meaning** |
| | | CO | Exchange Traded Commodity |
| | | CU | Exchange Traded Currency |
| | | DR | Exchange Traded Currency |
| | | EQ | Equity |
| | | TF | Exchange Traded Fund |
| | | RT | Rights |
| TIDM | STRING (4) | Not currently in use by Turquoise. | |
| Description | STRING (30) | This field is used to specify the name of a tradable instrument. | |
| SEDOL | STRING (7) | Not currently in use by Turquoise. | |
| ADT (EUR) | F64 | Defines the average daily turnover of the instrument specified in euros. | |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. | |
| Bid Status | ENUM | Not currently in use by Turquoise. | |
| DOL Indicator | ENUM | Not currently in use by Turquoise. | |
| DOL Section Number | STRING (4) | Not currently in use by Turquoise. | |
| Expiry Source | STRING (8) | Not currently in use by Turquoise. | |
| Issuer Code | STRING (6) | Not currently in use by Turquoise. | |
| Issuer Name | STRING (255) | Not currently in use by Turquoise. | |

| Field | Type (length) | Description |
|---|---|---|
| Normal Market Size | I10 | Not currently in use by Turquoise. |
| Ratio | STRING (8) | Not currently in use by Turquoise. |
| Settlement Type | STRING | Not currently in use by Turquoise. |
| Standard Market Size | I10 | Not currently in use by Turquoise. |
| Instrument Name | STRING (40) | Not currently in use by Turquoise. |
| DOL Symbol | STRING (36) | Not currently in use by Turquoise. |
| Unit of Quotation | I10 | Not currently in use by Turquoise. |
| Max Spread Floor | F64 | Not currently in use by Turquoise. |
| Max Spread Percentage | F64 | Not currently in use by Turquoise. |
| Country of Register | STRING (2) | Not currently in use by Turquoise. |
| Covered Warrant Strike Price | STRING (8) | Not currently in use by Turquoise. |
| Covered Warrant Expiry | STRING (8) | Not currently in use by Turquoise. |
| Sector | STRING (4) | Not currently in use by Turquoise. |
| Multicast ID | ENUM | This specifies the multicast channel through which market data for the instrument is broadcast. This will be blank. Refer to GTP001 Product Guide for this information. |
| Covered Warrant Strike Currency | STRING (TBC) | Not currently in use by Turquoise. |
| Covered Warrant Type | STRING (TBC) | Not currently in use by Turquoise. |
| Covered Warrant Style | STRING (TBC) | Not currently in use by Turquoise. |
| Reference Price | F64 | The Reference Price is used as a starting point for Price Bands. This will be set to the Primary Market Last Trading Price subject to alterations due to corporate actions, etc.<br>The Reference Price may be changed during the day subject to market movements. |
| Market ID | STRING (4) | MIC code |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| MiFIR Identifier | STRING (4) | MiFIR Identifier for the type of instrument:<br>SHRS – Shares<br>ETFS – Exchange-traded funds<br>ETCS – Exchange-traded commodities<br>ETNS – Exchange-traded notes<br>DPRS – Depositary receipts |
| MiFIR Subclass | STRING (4) | MiFIR Subclass of instrument |
| Static Reference Price Collar Percentage | F64 | Defines the spread between the reference price and the price band in terms of the percentage of the reference price. The Turquoise Static Reference Price (TSRP) will be used as the reference price. Please refer to the Turquoise Trading Service Description for more details about the TSRP. |

| Field | Type (length) | Description |
|---|---|---|
| Dynamic Reference Price Collar Percentage | F64 | Defines the spread between the reference price and the price band in terms of the percentage of the reference price. The Turquoise Dynamic Reference Price (TDRP) will be used as the reference price. Please refer to the Turquoise Trading Service Description for more details about the TDRP. |
| Liquid | STRING (1) | Indicates whether the instrument is liquid or illiquid. Possible values are:<br>**Value** – **Meaning**<br>Y – Liquid<br>N – Illiquid |
| ADT (Currency) | F64 | Defines the average daily turnover of the instrument specified in the instruments trading currency. |
| ADNT | F64 | Defines the average daily number of transactions for the instrument. |
| RPW Allowed | STRING (1) | Defines if execution under Reference Price Waiver for equity is allowed.<br>**Value** – **Meaning**<br>Y – Allowed<br>N – Not Allowed |
| FISN | STRING (35) | Financial Instrument Short Name for the instrument. |
| Max Order Value Lit (Currency) | F64 | Defines the maximum order value allowed for an instrument in the Integrated Book, specified in the instrument's trading currency. |
| Max Order Value Dark (Currency) | F64 | Defines the maximum order value allowed for an instrument in Turquoise Plato™ Order Book and Block Indication value for an instrument in Turquoise Plato Block Discovery™, specified in the instrument's trading currency. |
| Notional Currency | STRING (3) | Defines the currency of the Notional Amount. Only populated for non-equity instruments. |
| Price Notation | STRING (4) | Indicates whether the price is expressed in monetary value, a percentage or yield. MONE will be populated for equity like instruments. |
| Denominated Par Value | STRING (0) | Not currently in use by Turquoise. |
| Max Order Value Lit Auctions (Currency) | F64 | Maximum permitted order value to the Turquoise Plato Lit Auctions™ Order Book. |
| Max Order Value NYLON Cash Order Book (Currency) | F64 | Maximum permitted order value to the Turquoise NYLON™ Cash Order Book. |
| Turquoise Lit Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed.<br>**Value** – **Meaning**<br>TRQX – Turquoise Lit™ Order Book is supported. |
| Turquoise Plato Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed.<br>**Value** – **Meaning**<br>TRQM – Turquoise Plato™ Order Book is supported.<br>Blank – Turquoise Plato™ Order Book is not supported. |

| Field | Type (length) | Description | |
|---|---|---|---|
| Turquoise Lit Auctions Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed. | |
| | | **Value** | **Meaning** |
| | | TRQA | Turquoise Plato Lit Auctions™ Order Book is supported. |
| | | Blank | Turquoise Plato Lit Auctions™ Order Book is not supported. |
| Turquoise NYLON Cash Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed. | |
| | | **Value** | **Meaning** |
| | | TRQB | Turquoise NYLON™ Cash Order Book is supported. |
| | | Blank | Turquoise NYLON™ Cash Order Book is not supported. |
| Crypto ETN | STRING (1) | Defines if the instrument is a Crypto ETN.<br>A Crypto ETN that is physically backed and unleveraged, with a Crypto Currency (e.g., Bitcoin and/or Ethereum) as the underlying asset.<br>Regulation around crypto assets and related instruments is an evolving space. Therefore, in line with every other instrument available on Turquoise® / Turquoise Europe™ venues, a member should ensure this product is suitable for its customers, if relevant, in accordance with all relevant laws and regulations. | |
| | | **Value** | **Meaning** |
| | | Y | Yes (is a Crypto ETN) |
| | | N | No (is not a Crypto ETN) |
| Professional investor Only | STRING (1) | Defines if the instrument belongs to a sector which is to be used by professional investors only. | |
| | | **Value** | **Meaning** |
| | | Y | Yes |
| | | N | No |

### 3.3.2 YYYYMMDD_TQEX_Instrument.csv

| Field | Type (Length) | Description |
|---|---|---|
| Instrument ID | STRING (20) | Instrument ID, unique identifier across the system. |
| Calendar ID | STRING (30) | Unique key used to link the instrument to the market calendar to be used. The details of the calendar are maintained in the Calendar file. |
| Segment Code | STRING (4) | The code identifying the segment. Turquoise segments are currently split by settlement location. |
| Post Trade Parameters ID | STRING (30) | Not currently in use by Turquoise. |
| Price Tick Table ID | STRING (30) | Identifier for the Price Tick which is used by the Instrument. |
| ISIN Code | STRING (12) | The International Security Identification Number (ISIN).<br>This will be in line with ISO 6186. |
| Deletion Date | STRING (8) | Date on which the instrument will be deleted. Format yyyymmdd. This field may be blank. |
| First Trading Date | STRING (8) | Instrument's First Trading Date. Format yyyymmdd. |

| Field | Type (Length) | Description |
|---|---|---|
| Instrument Status | ENUM | Whether the instrument is active for trading, suspended from trading or not available for trading (inactive).<br><br>Possible values:<br><br>Value / Meaning<br>0 — Active<br>1 — Suspended<br>2 — Inactive<br>3 — Halted |
| Clearing Type | ENUM | Indicates whether the instrument is cleared or not. Possible values:<br>**Value** **Meaning**<br>0 Not Cleared<br>1 Cleared |
| Delete Orders at EOD | ENUM | Delete orders from the order book at the End of the day (EOD) Possible values:<br>**Value** **Meaning**<br>0 No<br>1 Yes |
| Exchange Market Size | I32 | Not currently in use by Turquoise. |
| Pre-Trade LIS Value (Currency) | F64 | The pre-trade LIS threshold of the instrument, specified in the instrument's trading currency. The minimum consideration value for hidden orders. |
| Minimum Order Size | F64 | Not currently in use by Turquoise. |
| Last Trading Day | STRING (8) | Not currently in use by Turquoise. |
| Lot Size | F64 | This field defines the size increment of an order entered by a participant. Orders may be entered only in multiples of the Order Lot Size for a particular instrument ID. |
| Security Type | STRING (2) | Provides more granular groupings of instruments.<br>Possible values:<br>Value Meaning<br>CO Exchange Traded Commodity<br>CU Exchange Traded Currency<br>DR Depositary Receipt<br>EQ Equity<br>TF Exchange Traded Fund<br>RT Rights |
| TIDM | STRING (4) | Not currently in use by Turquoise. |
| Description | STRING (30) | This field is used to specify the name of a tradable instrument. |
| SEDOL | STRING (7) | Not currently in use by Turquoise. |

| Field | Type (Length) | Description |
|---|---|---|
| ADT (EUR) | F64 | Defines the average daily turnover of the instrument specified in Euros. |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br><br>A list of all codes is contained in ISO 4217 - Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Bid Status | ENUM | Not currently in use by Turquoise. |
| DOL Indicator | ENUM | Not currently in use by Turquoise. |
| DOL Section Number | STRING (4) | Not currently in use by Turquoise. |
| Expiry Source | STRING (8) | Not currently in use by Turquoise. |
| Issuer Code | STRING (6) | Not currently in use by Turquoise. |
| Issuer Name | STRING (255) | Not currently in use by Turquoise. |
| Normal Market Size | I10 | Not currently in use by Turquoise. |
| Ratio | STRING (8) | Not currently in use by Turquoise. |
| Settlement Type | STRING | Not currently in use by Turquoise. |
| Standard Market Size | I10 | Not currently in use by Turquoise. |
| Instrument Name | STRING (40) | Not currently in use by Turquoise. |
| DOL Symbol | STRING (36) | Not currently in use by Turquoise. |
| Unit of Quotation | I10 | Not currently in use by Turquoise. |
| Max Spread Floor | F64 | Not currently in use by Turquoise. |
| Max Spread Percentage | F64 | Not currently in use by Turquoise. |
| Country of Register | STRING (2) | Not currently in use by Turquoise. |
| Covered Warrant Strike Price | STRING (8) | Not currently in use by Turquoise. |
| Covered Warrant Expiry | STRING (8) | Not currently in use by Turquoise. |
| Sector | STRING (4) | Not currently in use by Turquoise. |
| Multicast ID | ENUM | This specifies the multicast channel through which market data for the instrument is broadcast. This will be blank. Refer to GTP001 Product Guide for this information. |
| Covered Warrant Strike Currency | STRING (TBC) | Not currently in use by Turquoise. |
| Covered Warrant Type | STRING (TBC) | Not currently in use by Turquoise. |
| Covered Warrant Style | STRING (TBC) | Not currently in use by Turquoise. |
| Reference Price | F64 | The Reference Price is used as a starting point for Price Bands. This will |

| Field | Type (Length) | Description |
|---|---|---|
| | | be set to the Primary Market Last Trading Price subject to alterations due to corporate actions, etc.<br><br>The Reference Price may be changed during the day subject to market movements. |
| Market ID | STRING (4) | MIC code |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| Mifir Identifier | STRING (4) | Mifir Identifier for the type of instrument<br>SHRS – Shares<br>ETFS – ETFs<br>ETCS – Exchange-traded-commodities<br>ETNS – Exchange-traded notes<br>DPRS – Depositary receipts |
| Mifir Subclass | STRING (4) | Mifir Subclass of instrument |
| Static Reference Price Collar Percentage | F64 | Defines the spread between the reference price and the price band in terms of the percentage of the reference price. The Turquoise Static Reference Price (TSRP) will be used as the reference price. Please refer to the Turquoise Trading Service Description for more details about the TSRP. |
| Dynamic Reference Price Collar Percentage | F64 | Defines the spread between the reference price and the price band in terms of the percentage of the reference price. The Turquoise Dynamic Reference Price (TDRP) will be used as the reference price. Please refer to the Turquoise Trading Service Description for more details about the TDRP. |
| Liquid | STRING (1) | Indicates whether the instrument is liquid or illiquid . Possible values are:<br>**Value** **Meaning**<br>Y Liquid<br>N Illiquid |
| ADT (Currency) | F64 | Defines the average daily turnover of the instrument specified in the instruments trading currency. |
| ADNT | F64 | Defines the average daily number of transactions for the instrument. |
| RPW Allowed | STRING (1) | Defines if execution under Reference Price Waiver for equity is allowed.<br>**Value** **Meaning**<br>Y Allowed<br>N Not Allowed |
| FISN | STRING (35) | Financial Instrument Short Name for the instrument. |
| Max Order Value Lit (Currency) | F64 | Defines the maximum order value allowed for an instrument in the Integrated Book, specified in the instrument's trading currency. |
| Max Order Value Dark (Currency) | F64 | Defines the maximum order value allowed for an instrument in **Turquoise Plato™** Order Book and Block Indication value for an instrument in **Turquoise Plato Block Discovery™**, specified in the instrument's trading currency. |
| Notional Currency | STRING (3) | Defines the currency of the Notional Amount. Only populated for non-equity instruments. |
| Price Notation | STRING (4) | Indicates whether the price is expressed in monetary value, a percentage or yield. MONE will be populated for equity like instruments. |
| Denominated Par Value | STRING (0) | Not currently in use by Turquoise. |

| Field | Type (Length) | Description |
| --- | --- | --- |
| Max Order Value Lit Auctions (Currency) | F64 | Maximum permitted order value to the **Turquoise Plato Lit Auctions™** Order Book. |
| Max Order Value NYLON Cash Order Book (Currency) | F64 | Maximum permitted order value to the **Turquoise NYLON™** Cash Order Book. |
| Turquoise Lit Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed.<br>Value Meaning<br>TRQX **Turquoise Lit™** Order Book is supported |
| Turquoise Plato Order Book | STRING (4) | Indicates the MIC code Published via GTP market data feed. Value: Meaning<br>TRQM: **Turquoise Plato™** Order Book is supported<br>Blank: Turquoise Plato™ Order Book is not supported |
| Turquoise Lit Auctions Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed.<br>TRQA **Turquoise Plato Lit Auctions™** Order Book is supported<br>Blank **Turquoise Plato Lit Auctions™** Order Book is not supported |
| Turquoise NYLON Cash Order Book | STRING (4) | Indicates the MIC code published via GTP market data feed.<br>TRQB **Turquoise NYLON™** Cash Order Book is supported<br>Blank **Turquoise NYLON™ Cash Order Book is not supported** |
| Crypto ETN | STRING (1) | Defines if the instrument is a Crypto ETN.<br>A Crypto ETN that is physically backed and unleveraged, with a Crypto Currency (e.g., Bitcoin and/or Ethereum) as the underlying asset.<br>Regulation around cryptoassets and related instruments is an evolving space. Therefore, in line with every other instrument available on Turquoise® / Turquoise Europe™ venues, a member should ensure this product is suitable for its customers, if relevant, in accordance with all relevant laws and regulations.<br>**Value** **Meaning**<br>Y Yes (is a Crypto ETN)<br>N No (is not a Crypto ETN) |

### 3.3.3 YYYYMMDD_TRQX_Instrument_HK_Members.csv

| Field | Type (length) | Description |
| --- | --- | --- |
| Symbol | STRING (20) | Instrument ID, unique identifier across the system. |
| Description | STRING (50) | This field is used to specify the name of a tradable instrument. |
| ISIN | STRING (12)(12) | The International Security Identification Number (ISIN). This will be in line with ISO 6186. |

| | | |
|---|---|---|
| Trading Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Market ID | STRING (4) | MIC code. |
| MiFIR ID | STRING (4) | MiFIR Identifier for the type of instrument<br>SHRS – Shares<br>ETFS – Exchange-traded funds<br>ETCS – Exchange-traded commodities<br>ETNS – Exchange-traded notes<br>DPRS – Depositary receipts<br>OTHR – Other |
| First Active Date | STRING (8) | YYYYMMDD formatted date. |
| Securities Requiring further review by Hong Kong member firms for consideration as structured products | STRING (3) | YES/NO. |

## 3.4 Calendar File Record Layout

The following sections provide details on calendar reference data available within the reference data service:

### 3.4.1 YYYYMMDD_TRQX_Calendar.csv

| Field | Type (length) | Description |
|---|---|---|
| Calendar ID | STRING (30) | Unique code used to identify the calendar. This code is used to link the calendar to the instrument. |
| Calendar Date | STRING (8) | Calendar Date, with the format: yyyymmdd. |
| Description | STRING (30) | Name used to identify the calendar. |
| Early Closing | ENUM | Whether the calendar allows early closing or not.<br>Possible values:<br>**Value** – **Meaning**<br>0 – No<br>1 – Yes |
| Trading Allowed | ENUM | Whether Trading is allowed on this day.<br>Possible values:<br>**Value** – **Meaning**<br>0 – No<br>1 – Yes |

### 3.4.2 YYYYMMDD_TQEX_Calendar.csv

| Field | Type (length) | Description |
|---|---|---|
| Calendar ID | STRING (30) | Unique code used to identify the calendar. This code is used to link the calendar to the instrument. |
| Calendar Date | STRING (8) | Calendar Date, with the format: yyyymmdd. |
| Description | STRING (30) | Name used to identify the calendar. |
| Early Closing | ENUM | Whether the calendar allows early closing or not.<br>Possible values:<br>**Value** – **Meaning**<br>0 – No<br>1 – Yes |
| Trading Allowed | ENUM | Whether Trading is allowed on this day.<br>Possible values:<br>**Value** – **Meaning**<br>0 – No<br>1 – Yes |

## 3.5 Price Tick File Record Layout

### 3.5.1 YYYYMMDD_TRQX_PriceTick.csv

| Field | Type (length) | Description |
|---|---|---|
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Decimals | I32 | Maximum number of decimals supported by the Tick Structure. |
| Description | STRING (100) | Name used to identify the Price Tick. |
| Max Value | F64 | Upper price band value for that tick size. |
| Min Value | F64 | Lower price band value for that tick size. |
| Tick Value | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |

### 3.5.2 YYYYMMDD_TQEX_PriceTick.csv

| Field | Type (length) | Description |
|---|---|---|
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Decimals | I32 | Maximum number of decimals supported by the Tick Structure. |
| Description | STRING (100) | Name used to identify the Price Tick. |
| Max Value | F64 | Upper price band value for that tick size. |
| Min Value | F64 | Lower price band value for that tick size. |
| Tick Value | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |

## 3.6 Block Minimum Indication Value Layout

### 3.6.1 YYYYMMDD_TRQX_BlockDiscoveryMinValues.csv

| Field | Type (Length) | Description |
|---|---|---|
| Name | STRING (30) | This field is used to specify the name of a tradable instrument. |
| Market ID | STRING (4) | MIC code. |
| Market Name | STRING (30) | Full name of MIC. |
| ISIN | STRING (12) | The International Security Identification Number (ISIN). This will be in line with ISO 6186. |
| Symbol | STRING (20) | Instrument ID, unique identifier across the system. |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| CSD | STRING (2) | This specifies the country of Register for a specific tradable instrument.<br>This will be in line with ISO 3166. |
| ADT (EUR) | F64 | Used to define thresholds for hidden order entry. |
| Pre-Trade LIS Value (Currency) | F64 | The minimum consideration value for an order to be hidden (Large In Scale). |
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Closing Price | F64 | The Reference Price used to calculate LIS and the starting point for Price Bands. This will be set to the Primary Market Last Trading Price, subject to alterations due to corporate actions, etc.<br>The Reference Price may be changed during the day, subject to market movements. |
| Lower Limit | F64 | Lower price band value for that tick size. |
| Tick Size | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |
| Minimum Indication Value | Decimal | Minimum value for a Block Indication (BI) to be accepted into the system in the trading currency of the instrument. |
| Minimum BDN Value | Decimal | Minimum value for a Block Discovery Notification (BDN) to be accepted into the system in the trading currency of the instrument. |
| Min MEV for Indications | Decimal | Minimum Execution Value for a Block Indication (BI).<br>*Reserved for future use. Will be populated with 0.* |
| Min MEV for BDN | Decimal | Minimum Execution Value for a Block Discovery Notification (BDN).<br>*Reserved for future use. Will be populated with 0.* |
| Price Test Tolerance | Decimal | Price test tolerance used in reputational scoring.<br>*Reserved for future use. Will be populated with 0.* |

### 3.6.2 YYYYMMDD_TQEX_BlockDiscoveryMinValues.csv

| Field | Type (Length) | Description |
|---|---|---|
| Name | STRING (30) | This field is used to specify the name of a tradable instrument. |
| Market ID | STRING (4) | MIC code. |
| Market Name | STRING (30) | Full name of MIC. |
| ISIN | STRING (12) | The International Security Identification Number (ISIN). This will be in line with ISO 6186. |
| Symbol | STRING (20) | Instrument ID, unique identifier across the system. |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| CSD | STRING (2) | This specifies the country of Register for a specific tradable instrument.<br>This will be in line with ISO 3166. |
| ADT (EUR) | F64 | Used to define thresholds for hidden order entry. |
| Pre-Trade LIS Value (Currency) | F64 | The minimum consideration value for an order to be hidden (Large In Scale). |
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Closing Price | F64 | The Reference Price used to calculate LIS and the starting point for Price Bands. This will be set to the Primary Market Last Trading Price, subject to alterations due to corporate actions, etc.<br>The Reference Price may be changed during the day, subject to market movements. |
| Lower Limit | F64 | Lower price band value for that tick size. |
| Tick Size | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |
| Minimum Indication Value | Decimal | Minimum value for a Block Indication (BI) to be accepted into the system in the trading currency of the instrument. |
| Minimum BDN Value | Decimal | Minimum value for a Block Discovery Notification (BDN) to be accepted into the system in the trading currency of the instrument. |
| Min MEV for Indications | Decimal | Minimum Execution Value for a Block Indication (BI).<br>*Reserved for future use. Will be populated with 0.* |
| Min MEV for BDN | Decimal | Minimum Execution Value for a Block Discovery Notification (BDN).<br>*Reserved for future use. Will be populated with 0.* |
| Price Test Tolerance | Decimal | Price test tolerance used in reputational scoring.<br>*Reserved for future use. Will be populated with 0.* |

## 3.7 Turquoise TrackInsight™ A-list

### 3.7.1 YYYYMMDD_TRQX_TurquoiseTrackInsightETFs.csv

| Field | Type (Length) | Description |
|---|---|---|
| Name | STRING (30) | This field is used to specify the name of a tradable instrument. |
| Market ID | STRING (4) | MIC code. |
| Market Name | STRING (30) | Full name of MIC. |
| ISIN | STRING (12) | The International Security Identification Number (ISIN). This will be in line with ISO 6186. |
| Symbol | STRING (20) | Instrument ID, unique identifier across the system. |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| CSD | STRING (2) | This specifies the country of Register for a specific tradable instrument.<br>This will be in line with ISO 3166. |
| ADT (EUR) | F64 | Used to define thresholds for hidden order entry. |
| Pre-Trade LIS Value (Currency) | F64 | The pre-trade LIS threshold of the instrument, specified in the instrument’s trading currency. The minimum consideration value for hidden orders. |
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Closing Price | F64 | The Reference Price used to calculate LIS and the starting point for Price Bands. This will be set to the Primary Market Last Trading Price, subject to alterations due to corporate actions, etc.<br>The Reference Price may be changed during the day, subject to market movements. |
| Lower Limit | F64 | Lower price band value for that tick size. |
| Tick Size | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |
| Rating | Integer | Integer rating out of a total of five assigned to ETF by Turquoise TrackInsight™, based on the Turquoise TrackInsight™ ETF Ratings Methodology. |
| Category | String (50) | ETF category, assigned by Turquoise TrackInsight™.<br>Possible values:<br>Developed Market Europe Large Cap Equities Developed Market North America Large Cap Equities Global Market Large Cap Equities.<br>Developed Market Asia Large Cap Equities Global Market Small Cap Equities Emerging Market Equities.<br>Developed Market Government Bonds Emerging Market Bonds.<br>Developed Market Corporate Investment Grade Bonds Developed Market Corporate High Yield Bonds Commodities. |

### 3.7.1 YYYYMMDD_TQEX_TurquoiseTrackInsightETFs.csv

| Field | Type (Length) | Description |
|---|---|---|
| Name | STRING (30) | This field is used to specify the name of a tradable instrument. |
| Market ID | STRING (4) | MIC code. |
| Market Name | STRING (30) | Full name of MIC. |
| ISIN | STRING (12) | The International Security Identification Number (ISIN). This will be in line with ISO 6186. |
| Symbol | STRING (20) | Instrument ID, unique identifier across the system. |
| Currency | STRING (4) | This field contains the currency in which prices for a tradable instrument must be expressed.<br>A list of all codes is contained in ISO 4217 – Codes for the representation of currencies and funds, except that, for SEAQ compatibility, GBX has been retained. |
| Visibility | STRING (1) | Not currently in use by Turquoise. |
| CSD | STRING (2) | This specifies the country of Register for a specific tradable instrument.<br>This will be in line with ISO 3166. |
| ADT (EUR) | F64 | Used to define thresholds for hidden order entry. |
| Pre-Trade LIS Value (Currency) | F64 | The pre-trade LIS threshold of the instrument, specified in the instrument's trading currency. The minimum consideration value for hidden orders. |
| Price Tick Table ID | STRING (30) | Unique identifier for the Price Tick that links the data in the file to other reference data files. |
| Closing Price | F64 | The Reference Price used to calculate LIS and the starting point for Price Bands. This will be set to the Primary Market Last Trading Price, subject to alterations due to corporate actions, etc.<br>The Reference Price may be changed during the day, subject to market movements. |
| Lower Limit | F64 | Lower price band value for that tick size. |
| Tick Size | F64 | The code to identify the valid format in which prices can be entered/displayed. The price must be a multiple of this Tick Size. |
| Rating | Integer | Integer rating out of a total of five assigned to ETF by Turquoise TrackInsight™, based on the Turquoise TrackInsight™ ETF Ratings Methodology. |
| Category | String (50) | ETF category, assigned by Turquoise TrackInsight™.<br>Possible values:<br>Developed Market Europe Large Cap Equities Developed Market North America Large Cap Equities Global Market Large Cap Equities.<br>Developed Market Asia Large Cap Equities Global Market Small Cap Equities Emerging Market Equities.<br>Developed Market Government Bonds Emerging Market Bonds.<br>Developed Market Corporate Investment Grade Bonds Developed Market Corporate High Yield Bonds Commodities. |

# 4.0 Customer testing

The purpose of the CDS files is to facilitate any future changes to the format of the files. CDS reference data is refreshed regularly on Turquoise.

**Disclaimer**



**Contact Details**

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