

# TM Forum Specification

## Stock Management Conformance Profile

**TMF687B**

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## INTRODUCTION - API DESCRIPTION

The Stock API can be used to manage 5 resources: ProductStock, AdjustProductStock, QueryProductStock, CheckProductStock and ReserveProductStock.

For the release v4.0 only ProductStock (POST/GET/PATCH) & ReserveProductStock (POST/GET) resources are required for conformance.

Complete description of this API is available in the user guide.

## RESOURCE MODEL CONFORMANCE

### API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

Resource Name	Comment
ProductStock	Operations POST, GET and PATCH are mandatory
ReserveProductStock	Only GET & POST operations are mandatory.

### GENERAL NOTES ON RESOURCE ATTRIBUTE CONFORMANCE

There are three situations that could occur for an attribute:

- Mandatory attribute,
  - Mandatory attribute if the optional parent attribute is present,
  - Non-mandatory/Optional attribute. Those are all the other attributes not mentioned in the following subsections. Please refer to the corresponding API REST Specification for more details.
- The tables in the subsections below indicate which attributes are mandatory including mandatory when an optional parent is present.
  - Where a resource is an input into an API (e.g. POST, PATCH), Mandatory means that the attribute value must be supplied by the API consumer in the input (and must not be blank or null).
  - Where a resource is an output from an API (e.g. GET, POST), Mandatory means that the attribute value must be supplied by the API provider in the output (and must not be blank or null).
  - For a sub-resource that is not an array, Mandatory (cardinality 1..1) means that the sub-resource must be present, while Optional (cardinality 0..1) means that the sub-resource may be absent. Mandatory and Optional on the sub-resource attributes apply to the sub-resource if present.
  - For a sub-resource that is an array, Mandatory (cardinality 1..\*) means that at least one sub-resource must be present in the array, while Optional (cardinality 0..\*) means that the array may be absent. Mandatory and Optional on the sub-resource attributes apply to each of the sub-resources if present.

In this table are listed all mandatory attributes. A mandatory attribute MUST be retrieved in resource representation when no attribute selection is used (e.g. GET `../{id}`) without any attribute selection

When an attribute is listed with an indentation (in second column) it means this attribute is mandatory if root (parent) attribute is present.

## PRODUCTSTOCK RESOURCE MANDATORY ATTRIBUTES

Mandatory attribute when parent is present		Rule
href		M (in response messages)  Generated by the server and provided in the response upon resource creation. Value in response must be the same as the one set in Location header provided upon entity creation.
id		M (in response messages)  Generated by the server and provided in the response upon resource creation
productStockStatusType		M
productStockLevel		M
	amount	M
stockedProduct		M
stockedProduct.agreement (if present)		Array of AgreementItemRef
	id	M
stockedProduct.billingAccount (if present)		
	id	M
stockedProduct.productOffering (if present)		
	id	M
stockedProduct.productTerm.duration (if present)		See conditions for Quantity at productStockLevel
stockedProduct.realizingResource (if present)		Array of ResourceRef
	id	M
stockedProduct.realizingService (if present)		Array of ServiceRef
	id	M
stockedProduct.place (if present)		Array of RelatedPlaceRefOrValue
	@referredType	M
	role	M

Mandatory attribute when parent is present		Rule
stockedProduct.productCharacteristic (if present)		Array of Characteristic
	name	M
	value	M
stockedProduct.productOrderItem (if present)		Array of RelatedProductOrderItem
	orderItemId	M
	productOrderId	M
stockedProduct.productRelationship (if present)		Array of ProductRelationship
	product	M  See conditions for ProductRefOrValue at stockedProduct
	relationshipType	M
stockedProduct.productSpecification (if present)		
	id	M
stockedProduct.productSpecification.targetProductSchema (if present)		
	@schemaLocation	M
	@type	M
stockedProduct.relatedParty (if present)		Array of RelatedParty
	@referredType	M
	@type	M
	id	M
stockedProduct.productPrice (if present)		Array of ProductPrice
	price	M
	priceType	M
stockedProduct.productPrice.billingAccount (if present)		See conditions for BillingAccountRef at stockedProduct.billingAccount
stockedProduct.productPrice.productOfferingPrice (if present)		

Mandatory attribute when parent is present		Rule
	id	M
stockedProduct.productPrice.productPriceAlteration (if present)		Array of PriceAlteration
	price	M
	priceType	M
stockedProduct.productPrice.productPriceAlteration.productOfferingPrice (if present)		See conditions for ProductOfferingPriceRef at stockedProduct.productPrice.productOfferingPrice
channel (if present)		Array of ChannelRef
	name	M
marketSegment (if present)		Array of MarketSegmentRef
	name	M
maxStockLevel (if present)		See conditions for Quantity at productStockLevel
minStockLevel (if present)		See conditions for Quantity at productStockLevel
reorderQuantity (if present)		See conditions for Quantity at productStockLevel
resource (if present)		Array of ResourceRef  See conditions for ResourceRef at stockedProduct.realizingResource
stockLevelAlert (if present)		See conditions for Quantity at productStockLevel
place (if present)		See conditions for RelatedPlaceRefOrValue at stockedProduct.place
productStockRelationship (if present)		Array of ProductStockRelationship
	relationshipType	M
	stockLevel	M
productStockRelationship.stockLevel		M



Mandatory attribute when parent is present		Rule
	id	M
relatedParty (if present)		Array of RelatedParty  See conditions for RelatedParty at stockedProduct.relatedParty

## RESERVEPRODUCTSTOCK RESOURCE MANDATORY ATTRIBUTES

Mandatory attribute when parent is present		Rule
href		M (in response messages)  Generated by the server and provided in the response upon resource creation. Value in response must be the same as the one set in Location header provided upon entity creation.
id		M (in response messages)  Generated by the server and provided in the response upon resource creation
reserveProductStockState		M (in response messages)  Only required in response messages from the server when providing the ReserveProductStock entity contents
reserveProductStockItem		M  Array of ReserveProductStockItem
	id	M
	reserveProductStockState	M (in response messages)  Only required in response messages from the server when providing the ReserveProductStock entity contents  See conditions for TaskStateType at reserveProductStockState
	quantityRequested	M
reserveProductStockItem.quantityRequested		M

Mandatory attribute when parent is present		Rule
	amount	M
reserveProductStockItem.productStockRequested (if present)		
	id	M
reserveProductStockItem.productStockReserved (if present)		See conditions for ProductStockRef at reserveProductStockItem.productStockRequested
reserveProductStockItem.quantityReserved (if present)		See conditions for Quantity at reserveProductStockItem.quantityRequested
reserveProductStockItem.requestedProduct.agreement (if present)		Array of AgreementItemRef
	id	M
reserveProductStockItem.requestedProduct.billingAccount (if present)		
	id	M
reserveProductStockItem.requestedProduct.productOffering (if present)		
	id	M
reserveProductStockItem.requestedProduct.productTerm.duration (if present)		See conditions for Quantity at reserveProductStockItem.quantityRequested
reserveProductStockItem.requestedProduct.realizingResource (if present)		Array of ResourceRef
	id	M
reserveProductStockItem.requestedProduct.realizingService (if present)		Array of ServiceRef
	id	M
reserveProductStockItem.requestedProduct.place (if present)		Array of RelatedPlaceRefOrValue
	@referredType	M
	role	M

Mandatory attribute when parent is present		Rule
reserveProductStockItem.requestedProduct.productCharacteristic (if present)		Array of Characteristic
	name	M
	value	M
reserveProductStockItem.requestedProduct.productOrderItem (if present)		Array of RelatedProductOrderItem
	orderItemId	M
	productOrderId	M
reserveProductStockItem.requestedProduct.productRelationship (if present)		Array of ProductRelationship
	product	M
	relationshipType	M
reserveProductStockItem.requestedProduct.productSpecification (if present)		
	id	M
reserveProductStockItem.requestedProduct.productSpecification.targetProductSchema (if present)		
	@schemaLocation	M
	@type	M
reserveProductStockItem.requestedProduct.relatedParty (if present)		Array of RelatedParty
	@referredType	M
	@type	M
	id	M
reserveProductStockItem.requestedProduct.productPrice (if present)		Array of ProductPrice
	price	M
	priceType	M

Mandatory attribute when parent is present		Rule
reserveProductStockItem.requestedProduct.productPrice.billingAccount (if present)		See conditions for BillingAccountRef at reserveProductStockItem.requestedProduct.billingAccount
reserveProductStockItem.requestedProduct.productPrice.productOfferingPrice (if present)		
id		M
reserveProductStockItem.requestedProduct.productPrice.productPriceAlteration (if present)		Array of PriceAlteration
price		M
priceType		M
reserveProductStockItem.requestedProduct.productPrice.productPriceAlteration.productOfferingPrice (if present)		See conditions for ProductOfferingPriceRef at reserveProductStockItem.requestedProduct.productPrice.productOfferingPrice
channel (if present)		Array of ChannelRef
name		M
marketSegment (if present)		Array of MarketSegmentRef
name		M
place (if present)		See conditions for RelatedPlaceRefOrValue at reserveProductStockItem.requestedProduct.place
relatedEntity (if present)		Array of RelatedEntity
@referredType		M
id		M
role		M
relatedParty (if present)		Array of RelatedParty  See conditions for RelatedParty at reserveProductStockItem.requestedProduct.relatedParty

## API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

### PRODUCTSTOCK MANDATORY OPERATIONS

The following table indicates which ones are mandatory for the ProductStock resource:

Uniform API Operation
GET
POST
PATCH

### RESERVEPRODUCTSTOCK MANDATORY OPERATIONS

The following table indicates which ones are mandatory for the ReserveProductStock resource:

Uniform API Operation
GET
POST

## API GET OPERATION CONFORMANCE

All the GET operations in this API share the same status code pattern.

GET	Mandatory/Optional
Response Status Code 200 if successful	M
Response Status Code 404 if not found	M

## DEFINITIONS FOR FILTER

The following definitions apply to all the GET operations:

- **Filtered Search:** A filtered search can be applied using query parameters to obtain only the resources that meet the criteria defined by the filtering parameters included in the query request. Several elements can be applied to the filtered search. In that case logic, a logical AND is applied to combine the criteria (e.g.:?severity=<value>&status=<value>).
- **Attribute selection (Limiting Response Data):** In order to limit which attributes are included in the response, the GET request can include the ?fields= query parameter. Only those attributes whose names are supplied in this parameter will be returned. Attribute selection capabilities are the same for collections retrieval and individual resource queries.
- **Level:** The filtering and attribute selection can apply to the top level properties (attributes) and subproperties. The tables below show which attributes need to be supported in top-level or contained resources.

### GET /PRODUCTSTOCK?FIELDS=...&{FILTERING}

This operation list or find ProductStock entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

### GET /PRODUCTSTOCK/{ID}?FIELDS=...&{FILTERING}

This operation retrieves a ProductStock entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

### GET /RESERVEPRODUCTSTOCK?FIELDS=...&{FILTERING}

This operation list or find ReserveProductStock entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /RESERVEPRODUCTSTOCK/{ID}?FIELDS=...&{FILTERING}

This operation retrieves a ReserveProductStock entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## API POST OPERATION CONFORMANCE

All the POST operations in this API share the same status code pattern.

POST	Mandatory/Optional
Status Code 201 if resource created	M

### POST /PRODUCTSTOCK

This operation creates a ProductStock entity.

The following table provides the list of mandatory attributes when creating an instance of the ProductStock resource, including any possible rule, conditions and applicable default values.

Mandatory Attributes	Rule
productStockLevel	
productStockLevel.amount	
productStockStatusType	
stockedProduct	

### POST /RESERVEPRODUCTSTOCK

This operation creates a ReserveProductStock entity.

The following table provides the list of mandatory attributes when creating an instance of the ReserveProductStock resource, including any possible rule, conditions and applicable default values.

Mandatory Attributes	Rule
reserveProductStockItem	
reserveProductStockItem.id	
reserveProductStockItem.quantityRequested	
reserveProductStockItem.quantityRequested.amount	



**API PATCH OPERATION CONFORMANCE**

All the PATCH operations in this API share the same status code pattern.

The mandatory application context is JSON Merge.

PATCH	Mandatory/Optional
Status Code 200 if resource modified	M

**PATCH /PRODUCTSTOCK/{ID}**

This operation updates partially a ProductStock entity.

Patchable Attributes	Rule
productStockStatusType	

**ACKNOWLEDGEMENTS****RELEASE HISTORY**

<b>Release Status</b>	<b>Date</b>	<b>Release led by:</b>	<b>Description</b>
Pre-production	18-Nov-2020	Ludovic Robert, Orange	Initial Release

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