GROUP PURCHASING DEPARTMENT

May 2015
DGA/Q

GUIDELINES FOR CALCULATING QUALITY BUSINESS & DELIVERY DEADLINE INDICATORS

(IQB) & (IQD)

MICHELIN
A better way forward

GUIDELINES FOR CALCULATING BUSINESS QUALITY AND DELIVERY DEADLINE INDICATORS (IQB & IQD)

Purpose

This document describes two of the main quality indicators used to monitor the performance levels of raw materials suppliers and Michelin users' satisfaction.

Scope of application

This document applies to all suppliers of raw materials to the Michelin Group.

1. PRINCIPLES

Both indicators described in this document enable Michelin Group suppliers to assess their performance in terms of the quality of the products delivered and the delivery itself (lead-time/quantity) on a unified and clearly defined basis.

2. MONITORING THE QUALITY OF THE PRODUCTS DELIVERED

This indicator measures the inherent quality of products and services (compliance with specifications). The compliance of products and services is evaluated as a function of the non-compliances found.

The Business Quality Indicator (IQB) assesses product performance levels over a given timeframe. It can be applied to:

- one or more products delivered by a supplier,
- one or more supplier production sites.

$$IQB = \frac{N}{N + \sum criticalit\ y} x100$$

N = number of receipts (several receipts for a same supplier batch are possible)

Criticality = seriousness X business impact.

Michelin notifies the supplier of the levels of criticality with each complaint.

Rating			
of seriousness		**of business impact**	
Receipt reported	1	Non-compliance found during inspection of receipt	3
Partial refusal or partial non-compliance of receipt	3		
Total refusal or total non-compliance of receipt	10	Non-compliance found during implementation or usage	10

3. MONITORING DELIVERY PERFORMANCE LEVELS (lead-time/quantity)

Delivery performance level monitoring is carried out by monitoring **lead-time** and **quantity** non-compliances. Lead-time and quantity non-compliances are related and dependent on each other. **The Delivery Deadline Indicator (IQD)** scores "**on time delivery**" performance for a given period:

$$IQD = \frac{N - n_i}{N} x100$$

N = total number of deliveries during the assessment period in question.

ni = the number of deliveries outside contractual lead-times.

➔ We take into account acceptable delivery windows as defined by Michelin.

Acceptable delivery windows
for Rubber products (rubber, chemical products, fillers, resins)

Michelin sites	***Supplier sites***		
	EU	**Non-EU**	**Non-European continent**
EU	D	D +/-1 Except Fillers = D	D +/-3
Non-EU	D +/-1 Except Fillers = D	D +/-1 Except Fillers = D	D +/-3
Non-European continent	NA	NA	NA

Acceptable delivery windows
for Strengtheners (textile and metal)

Michelin sites \ *Supplier sites*	**EU**	**Non-EU**	**Non-European continent**
EU	D +/-1	D +/-3	D +/-5
Non-EU	D +/-3	D +/-3	D +/-5
Non-European continent	NA	NA	NA

Nota: Customs clearance times have no impact on acceptable delivery windows and are incorporated into the lead-time expected of the Supplier.

➔ For **Raw Materials managed by Vendor Managed Owned Inventory (VMOI)**, the delivery performance depends on how well the supplier respects the maximum and minimum thresholds when managing his stock levels.

The **PSL** (Projected Stock Level) is measured and the number of days noted during a given period, beyond the period fixed, when the PSL is between the minimum and the maximum.

This indicator is called **Supply Plan Accuracy (SPA**).

$$\text{The ratio is then calculated } \textbf{SPA} = \frac{\text{Number of days between min. and max.}}{\text{Total number of days}}$$