CONTAINER OWNERS ASSOCIATION

CEDEX based DAMAGE CODING of Maritime Containers

Introduction

At the COA Members Meeting in 2019 the COA decided to build a working group with the goal to create a new Industry standard for the coding of repair estimates for Maritime Containers.

Over a long time, different "interpretations" of the **CEDEX Repair Code Standard** (as well as non-CEDEX based standards) for the coding of container repair estimates have been developed - with the result that there is no single industry "standard".

With the growing need for digitization, a unique industry Standard which meets the latest IT requirements is essential. Based on this, the COA established a Work Group of industry experts from all stakeholders for the Harmonization of CEDEX Code Interpretations.

The aim of this initiative is to:

- Build a clear one-to-one set of codes for all the different type models of the containers, based on their integral components.
- Reduce all codes to a minimum necessary set of clearly defined list members.
- Define fixed connections between components and the related damage and repair codes under the boundary conditions of the respective Inspection criteria (UCIRC, IICL 6, CIC)
- Define the respective scaling rules for every resulting valid component-repair combination.
- Build an administration and governance platform together with an organizational unit to hold, administer, revise and publish the final standard.

To achieve these goals, the COA CEDEX Work Group has been analyzing the common data code set and developing a new, unified, system which uses the industry wide CEDEX code structures and builds on the required framework for a modern IT integration of a real standard for all stakeholders of the industry.

This will open the possibility for both CEDEX based and other coding systems to move – and also includes code subsets such as the recently released Equipment Code Standard (ECS) of the Institute of International Container Lessors (IICL).

The result is the foundation for a direct data exchange in any direction between all relevant parties - depots, shipping lines, traders and leasing companies.

Methodical approach

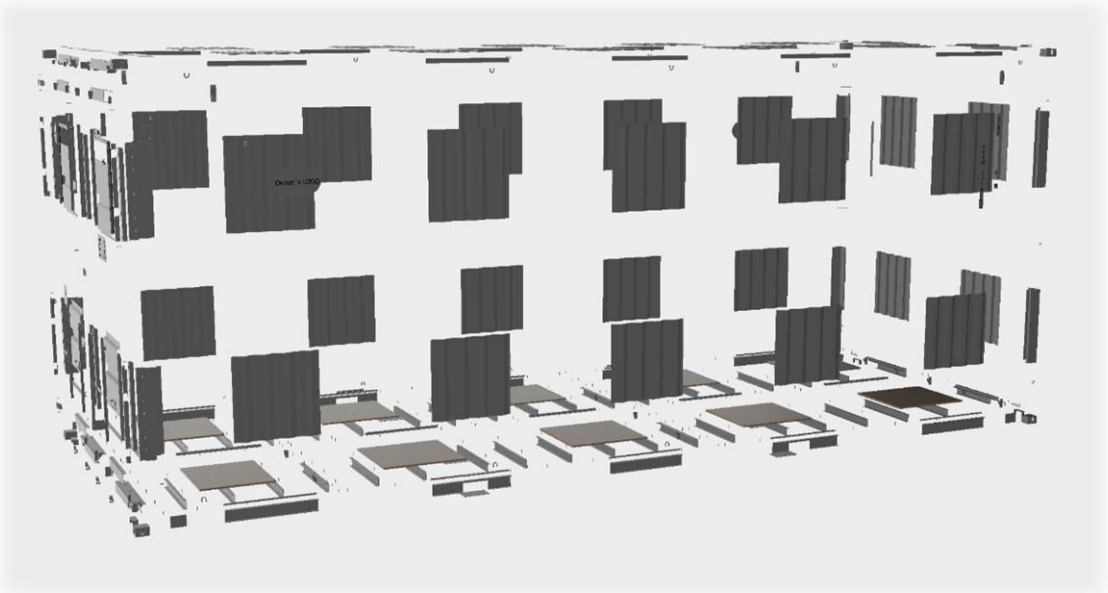
The COA approach is deemed to build a coding system which gives a unique and clear description of each possible damage and related repair for the different types of maritime containers.

A group of industry experts has developed a solution, which is based on the CEDEX code list (in line with the TSC 104 ballot) and with which a set of rules defines the valid code combinations.

The result of this work is a full set of code combinations which are named the CEDEX Dependencies.

The CEDEX dependencies are using part of the current CEDEX codes and the widely used data sets for the transmission of estimates. All estimates that are built with the new COA syntax will be compatible with the existent CEDEX based systems.

During the work it became clear that different requirements had to be considered in the preparation of the code lists. One example is the inspection standard of the estimate, which has an influence on possible damage-repair combinations.



To build an industry standard for all stakeholders, this was considered and integrated into the system.

General rules

Rules are the base for the construction of the CEDEX Syntax system and should guide the governance team during the development and the revisioning of the system. In cases where individual clauses contradict each other they should be considered in the order of the rules set out below.

1. As far as possible all codes should be based on the English name of the respective term (component, damage, repair …). E.g., LBR = Locking Bar Rod
2. Where in line with the logic of the CEDEX Syntax System, the codes of the current CEDEX code list from the TSC 104 ballot should be taken. Wherever needed, new codes will be used, which should try to avoid conflicts with already used codes within the industry.
3. Any kind of code must only hold such information, which is not substance of another code group. E.g.

a. component codes should not include the material of the component because this information should be given in the respective material code

b. damage codes should not include information on the responsibility because this is subject of the connected responsibility code.

4. As far as possible, codes should be chosen in a matter that considers the long lasting “most common industry use”.

Component and Location Codes

Define the min/max of required Components based on the “Digital Twin” for each dedicated **container type model** (model).

- The CEDEX code abbr. is directly linked to the single-one correct part.
- Out of the base components all needed Assemblies have to be defined
  (e.g., Forklift Pocket Assembly FLA = FLP + 2x FLT + 2x FLS).
  Where possible, the name of such groups should end with an “A” to mark them as assembly.

For every model a level of generalization is necessary to cope with the variances in the different specifications in a reasonable and practical manner.

All components are aligned with the Location Code in accordance with the CEDEX Location Code Grid

Component	**Face**	**Half**	**Location**	**Index**
CFG	F	H	1N	1
PSC	R	B	3N	1
CMA	U	L	2N	3

Result will be a fixed Component List for the respective container model

The model will be valid for several ISO code container types e.g., 2X_BOX (20DV): 22G0, 22G1 …

Damage Codes

Define valid and required damages for each general container model.

Every damage code should stand for a type of damage and summarize the different kinds of possible characteristics. For example, broken stands also for cracked, cut, torn.

The damage codes can be divided into three categories:

- Direct damages of a component
- Impurity or contamination of the container or its parts
- General abuses of the container

Repair Codes

Define valid and required repairs for each general container model and Inspection/Repair criteria.

Every repair code should stand for a type of repairs and summarize the different kinds of possible characteristics. For example, mechanical clean stands also for sweep, abrade and grind

The repair codes can be divided into three categories:

- Direct repairs of a component
- Cleaning or removal Impurity or contaminations

- General modification or treatment of the container

Scaling rules

For every branch of the component-damage-repair combination a fixed scaling rule is defined, which describes the way in which the efforts for work and material have to be calculated. These are:

1. Counting
2. Length
3. Area (length x width)
4. Perimeter (2x length + 2x width)

In this way for every possible matrix item a code double for material and labor is given.

E.g.: PSC BR PT (3,4)

Connecting the codes

For every general container model a “Damage to Repair Matrix” is defined, in which the valid repair methods for every damage are determined.

The final CEDEX Syntax is a fixed set of possible combinations of

Component/Location –> damage -> repair -> scaling rule

With respect to the different inspection standards wind and watertight (WWT), cargo worthy (CW), shipping line standard (UCIRC) or leasing off hire (IICL) possible damage repair combinations can be different.

Governance / Revisioning

The COA CEDEX Syntax is held and maintained by the COA. It is digitally stored in database with a connected system editor. A COA governance team takes care of the regular evolution and maintenance of the system.

A strict revision management will ensure that all connected industry users will always work with the respective actual code set.

COA will hold a set of different IT based connectors which will enable any industry stakeholder to easily inherit the code generation and evaluation into their estimation systems. Additionally, there will be possibilities to use the codes via web-based applications.

The cost for this system will be calculated as a pure cost price and charged to the users on a SAAS basis.