

Title (en)

Weight reduced running gear frame for a rail vehicle

Title (de)

Gewichtsreduzierter Fahrgestellrahmen für ein Schienenfahrzeug

Title (fr)

Cadre de train roulant à poids réduit pour véhicule ferroviaire

Publication

EP 2500232 B1 20140430 (EN)

Application

EP 11158515 A 20110316

Priority

EP 11158515 A 20110316

Abstract (en)

[origin: EP2500232A1] The present invention relates to a running gear frame for a rail vehicle, comprising two longitudinal beams (104.2) and at least one transverse beam (104.1; 204.1). The beams form a substantially H-shaped configuration defining a longitudinal direction, a transverse direction and a height direction, the transverse beam (104.1; 204.1) providing a structural connection between the longitudinal beams (104.2) in the transverse direction. At least one of the beams (104.1, 104.2) and/or at least one further structural component (115, 116; 216) of the running gear frame is formed by a plurality of wall elements (104.3 to 104.6, 104.8, 104.15 115.2, 116.2). At least one of the wall elements (104.3 to 104.6, 104.8, 104.15 115.2, 116.2) is a weight reduced wall element showing at least one otherwise nonfunctional weight reduction recess (104.14, 115.3, 116.3) at a less mechanically stressed location. The less mechanically stressed location is a location where, in a reference wall element and under any load collective to be expected under normal operation of the rail vehicle unit, a reference stress occurs that is less than 5%, preferably less than 10%, more preferably less than 15% to 20%, of a maximum reference stress. The reference wall element, apart from having a continuous, recess-free wall design, is substantially identical to and replaces the wall element showing the weight reduction recess (104.14, 115.3, 116.3). Finally, the maximum reference stress is a maximum mechanical stress occurring in the reference wall element under the respective one of the load collectives.

IPC 8 full level

B61F 5/52 (2006.01)

CPC (source: EP)

B61F 5/52 (2013.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2500232 A1 20120919; EP 2500232 B1 20140430; CN 102673598 A 20120919; ES 2470331 T3 20140623

DOCDB simple family (application)

EP 11158515 A 20110316; CN 201210069259 A 20120315; ES 11158515 T 20110316