



## AcaSal®500+Z (HX500LAD, HR460LA)

Thermomechanically rolled steel

### Materialinformationsblatt (MIB)

Material no.	-
in Anlehnung an	DIN EN 10346 (HX500LAD) VDA 239-100 (HR460LA) DIN EN 10143

### General information

AcaSal®500+Z is a high-strength steel based on thermomechanically rolled, micro-alloyed hot-rolled strip, which is hot-dip galvanized. It is characterized by a high yield strength and tensile strength with a sufficiently high elongation for cold forming processes. These products are suitable for cold bending and folding.

### Delivery form

Delivery is based on the provisions of DIN EN 10149-2 in combination with the DIN EN 10051 dimensioning standard (hot-rolled strip basis) or on special delivery terms. The test unit comprises at least 20 tons, or 20 tons of each new batch, of products of the same steel grade and nominal thickness. The test unit for strip material is the coil.

In general, 50% of Table 6 from DIN EN 10051 is confirmed. Narrower thickness tolerances are possible upon request.

### Besonderheiten

The steel is available with a conventional Z100 to Z275 zinc coating in the surfaces MA and MB. Other zinc coating thicknesses are possible upon request.

Commitments regarding certain properties or a certain purpose of use require written agreements. Technical changes as well as typesetting and printing errors reserved.

### Chemical composition<sup>1)</sup>

(in percent by weight)

	min. in %	max. in %
C		0.12 <sup>2)</sup>
Si		0.50
Mn		1.65 <sup>2)</sup>
P		0.030
S		0.015 <sup>2)</sup>
Al <sub>total</sub>	0.015	
Nb		0.10
Ti		0.15
Cu		0.20

1) Heat analysis

2) Restriction to DIN EN 10149-2 and VDA 239-100

### Mechanical properties<sup>3)</sup>

#### Yield strength R<sub>p0.2</sub> in MPa

transverse	500 - 620
longitudinal	460 - 560

#### Tensile strength R<sub>m</sub> in MPa

transverse	530 - 690
longitudinal	520 - 640

#### Total elongation A<sub>80</sub> in %

transverse	≥ 13
longitudinal	≥ 16

3) Test direction is according to DIN EN transverse and according to VDA in longitudinal rolling direction.

### Processing instructions

This steel grade is used for cold-formed components in a very wide range of designs. It is used in particular to manufacture:

- Longitudinal beams
- Frame structures
- Cold-pressed parts
- Cold-rolled sections
- Structural pipes

Users of this steel grade must ensure that their calculation, design and processing methods are appropriate for the material.

The forming process used must be suitable for the intended application and must comply with the state-of-the-art; it is of fundamental importance to the processing behavior of this steel grade.

Typical applications to utilize the high strength potential combined with weight savings in the component are vehicle construction, longitudinal beams and cross-members in trucks and trailers, safety parts in cars, and rail car construction.