

DETAN TENSION-ROD SYSTEM

SURFACES - CORROSION PROTECTION

System components – Materials and pattern

	Tension rod	Tension rod	Fork connector	Fork connector	Connection sockets, counter nuts	Anchor disc
System Ø d _s [mm]	6-12	16 - 95	6-12	16-95	6-95	6-95
Material	S 355	S460N	Grey cast iron GGG 40	Cast steel GS 20 Mn 5v	S 355	S 355
Pattern wb fv	Mill finish		Dacrometised		Dacrometised	Hot-dip galvanized
	Hot-dip galvanized					

Principles of corrosion protection

DACROMET is a metallic coating (8 - 10 µm) mainly consisting of zinc and aluminium flakes which are bound in a mineral-based chromium oxide binder.

- **Barrier effect**

The overlapping zinc and aluminium flakes and the ceramic binder form an excellent barrier against external effects.

- **Galvanic effect**

The zinc corrodes in preference to the steel and therefore protects it.

- **Passivation**

Metallic oxides in the coating prolong the corrosion reaction of the zinc and the steel. The chromium oxides passivate the zinc throughout the entire thickness of the coating and this reduces the rate of decomposition, so the steel is protected.

- **Cathodic protection**

If the surface is damaged, the damaged areas fill with zinc oxides and carbonates and protect the steel underneath the coating. The optimum corrosion protection is therefore guaranteed, particularly in the open air.

Advantages and benefits for the customer

- The highest level of corrosion protection at low coating thickness
The corrosion protection offered by DACROMET fulfils the requirements laid down in the car and construction industries as well as other industries. The low coating thicknesses of 8 - 10 µm means that this system is ideal for coating screw connections, thus guaranteeing protection of the threaded area. As a result, these need no after work.
- The TTFs (times to failure) of dacrometised components in the salt-spray test are longer than those with hot-dipped galvanized coating (= 1320 hours).
- The colour effect is visually attractive and is of the same quality as zinc-plated surfaces.
- No risk of hydrogen embrittlement.
- The coating shows excellent resistance to contact corrosion with aluminium, chromium, zinc and tin.
- Resistant to operating materials such as coolants, solvents and oils etc.
- The coated surfaces are resistant to heat, their properties remaining unchanged at temperatures up to 280°C.
- Paint adhesion: DACROMET forms an adhesion base for standard paints.

Tests and documentation

Salt spray test according to ISO 9227 / DIN 50021

The series of tests was carried out over a period of up to 1320 hours. A test report is available.

Approvals

The dacrometisation process is listed in the following European and international standards:

- DIN EN ISO 10683 (EU)
- AFNOR 25032 (F)
- British Standard BS 7371 (GB)
- UNI 3740(1)
- ASTM F1136-88 (USA)