



Mounting/Demounting Instructions UHP* and Run Flat Tyres**

Attachment 2 Summary of criteria

* Aspect ratio ≤ 45 % and speed symbol $\geq V$

** Pay attention to manufacturer's marks

Tyre characteristics

- Examples of criteria to judge on improper mounting or demounting
- Evaluation
- Consequences
- Preventive measures

Preface

This summary of characteristics shows examples of typical mounting and demounting features.

In case of visible damage which reaches as deep as to the ply, tyres will have to be discarded at any rate.

It is always possible that safety-related characteristics appear which are not listed here, but even exceed the criteria mentioned here – this might depend on mounting / demounting procedures and tyre types.

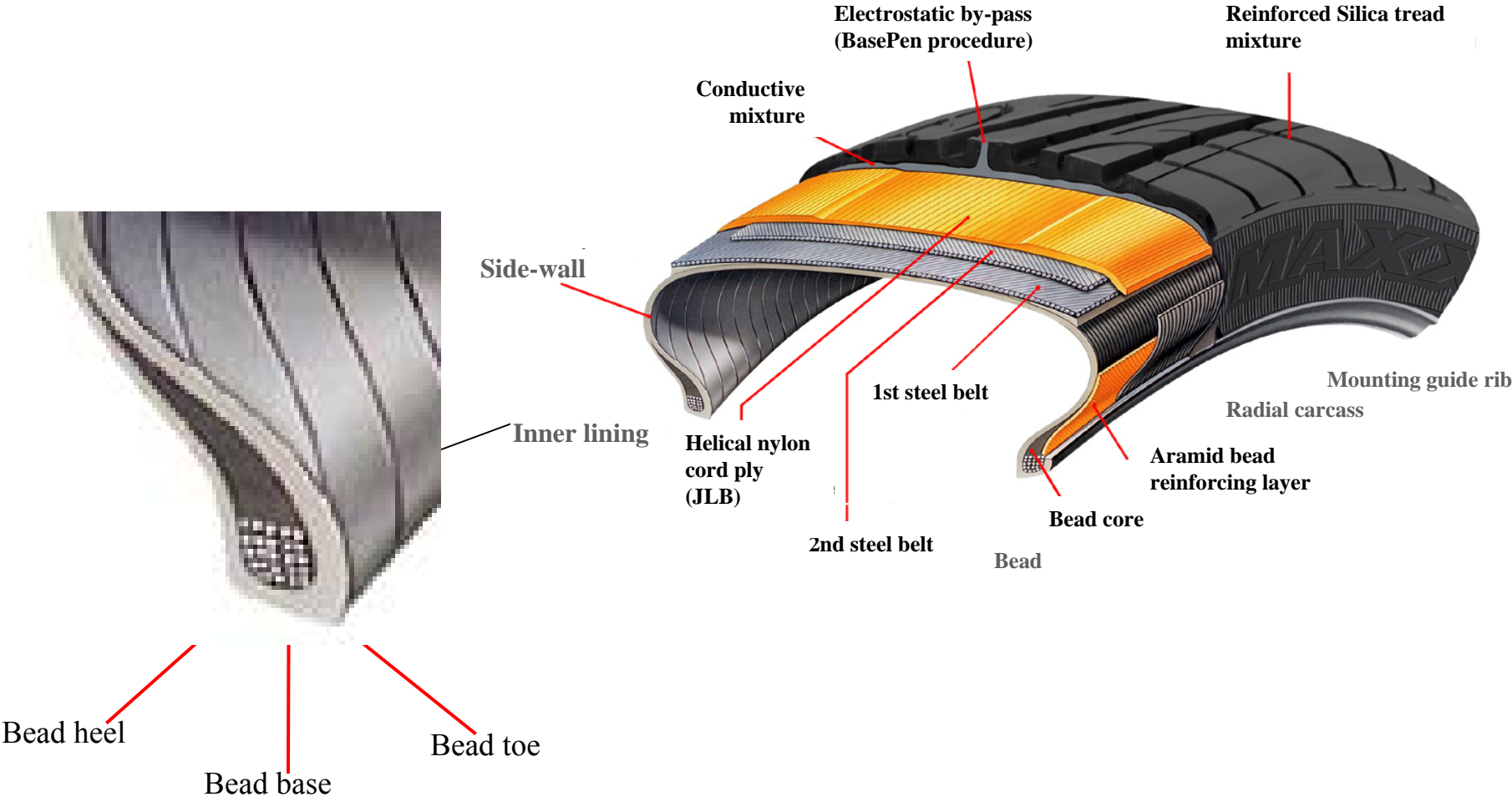
Evaluation of such characteristics is always up to a qualified professional.

In case of doubt, or in borderline cases, damaged tyres should always be discarded.

This summary is not exhaustive.

We decline any responsibility for contents and interpretation of this summary.

Sketch and terminology



Identification of tyre characteristics

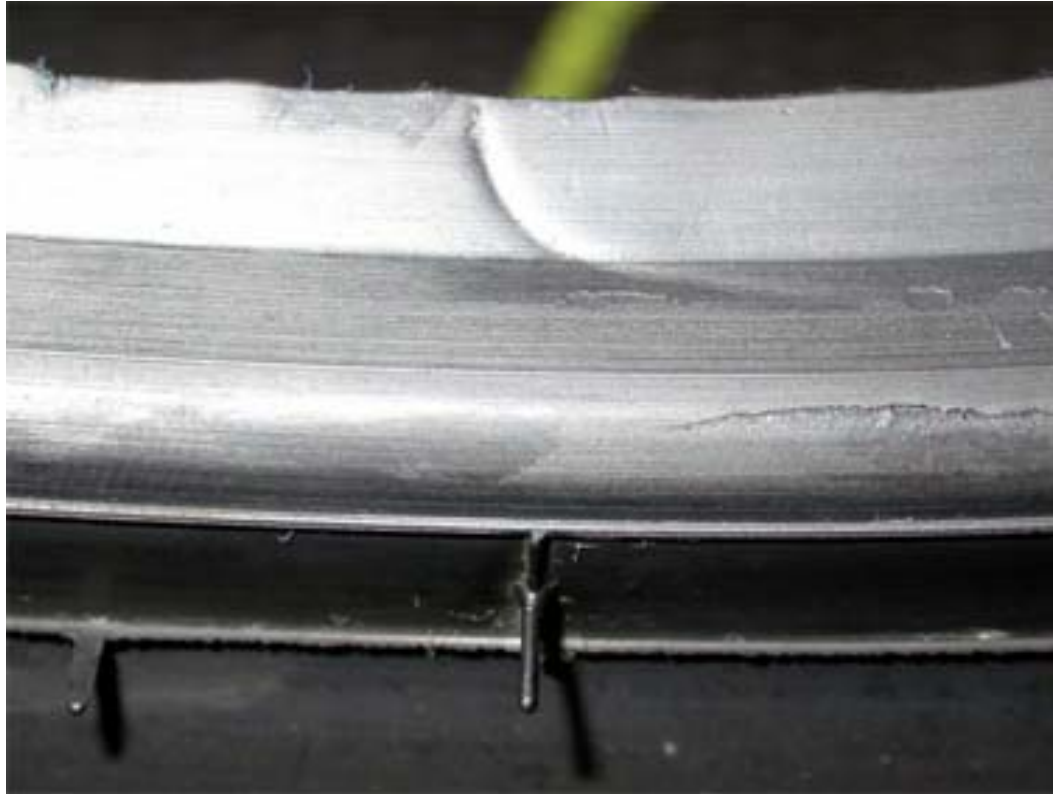
- Clean tyre sidewalls, beads and inner liner with clean cloth
- Make sure to illuminate the workplace properly
- In order to check for deep damage (cut, scratches) use suitable tools such as a round spatula
- Mark damage with clearly visible crayons to make sure such spots are easily relocated when re-examined
- Make scrap tyres unusable

Characteristic:

impression of rim flange at point of traction

Cause:

excessive tension during mounting procedure



Consequence:

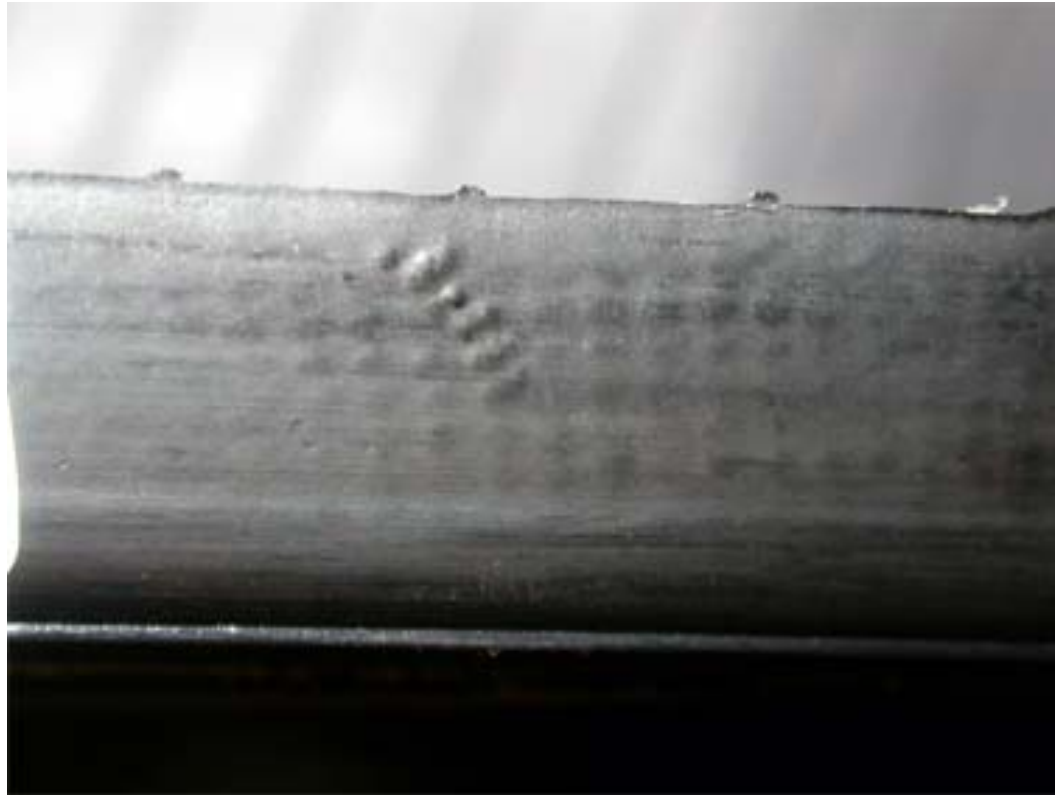
check tyre for leaks

Preventive measures:

use suitable tyre changer and tools;
apply sufficient lubricant in line with mounting instructions

Characteristic : overstretching of bead base at point of traction

Cause: excessive tension during mounting procedure

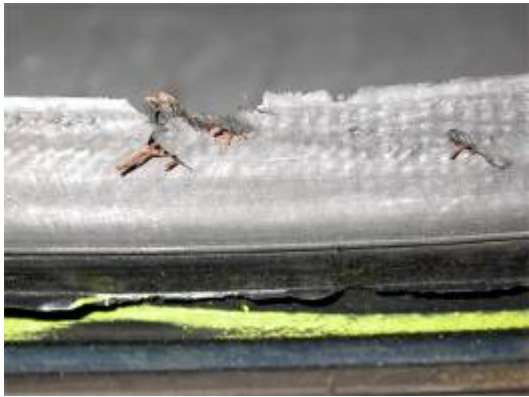
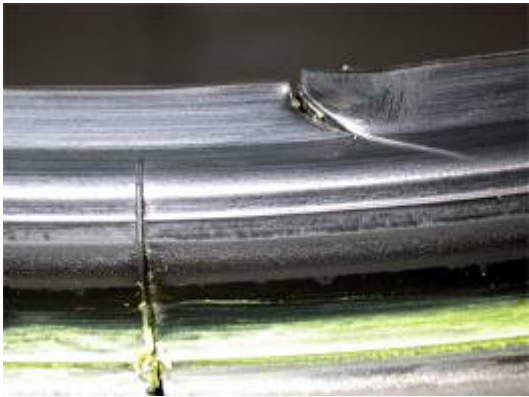
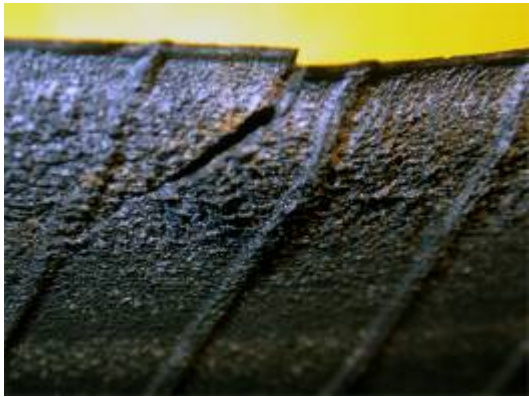


Consequence: check tyre for leaks

Preventive measures: use suitable tyre changer and tools; apply sufficient lubricant in line with mounting instructions

Characteristic : bead toe slightly ripped

Cause: sharp-edged mounting head, sharp-edged rim flange



Consequence: if minor scratches are found in the rubber, tyre can be used again; if scratches reach as far as to the ply: discard tyre

Preventive measures: check / replace mounting head; add rim flange protection; use bead clamp, apply sufficient lubricant

Characteristic : bead base deformed at point of traction

Cause: unsuitable bead clamps, not properly applied;
tyre and bead clamps slip off



Consequence: check inner liner for damage (also see inner liner damages);
check tyre for leaks

Preventive measures: correctly apply suitable bead clamp; avoid slipping off

Characteristic : bead base damaged as far as to the ply

Cause: high tension at point of traction during mounting procedure

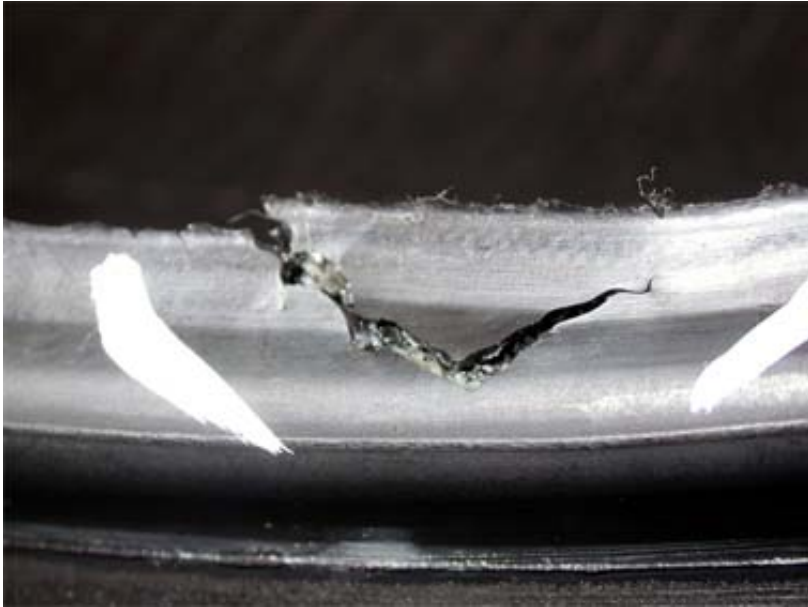


Consequence: discard tyre

Preventive measures: apply sufficient lubricant; add rim flange protection;
use bead clamp

Characteristic : bead toe and bead base damaged

Cause: excessive tension during mounting procedure caused bead to slip off the mounting head



Consequence: discard tyre

Preventive measures: position mounting head properly; make sure core temperature does not fall below 15 °C minutes!

Characteristic : bead base torn off during demounting procedure

Cause: bead already slightly damaged during mounting procedure



Consequence: discard tyre

Preventive measures: use suitable tyre changer and sufficient lubricant

Characteristic : bead heel damaged

Cause: excessive friction at mounting head

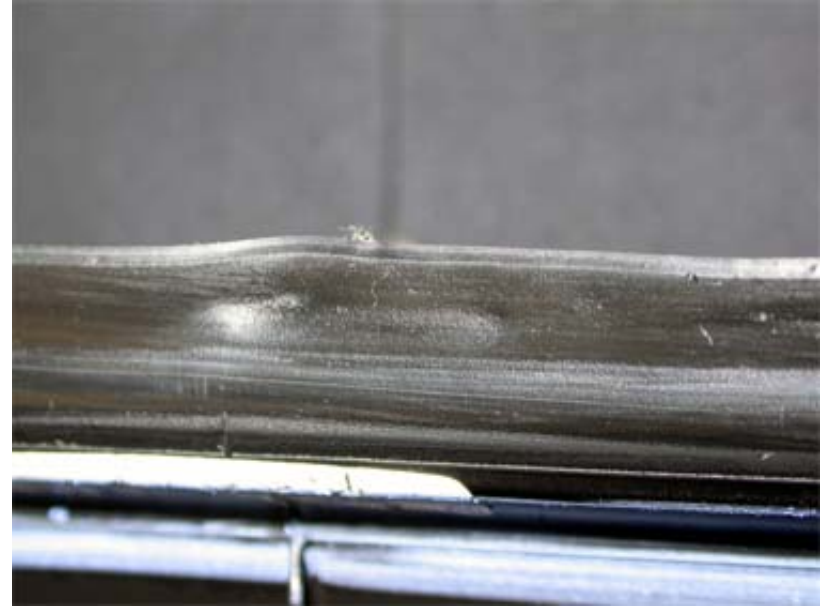
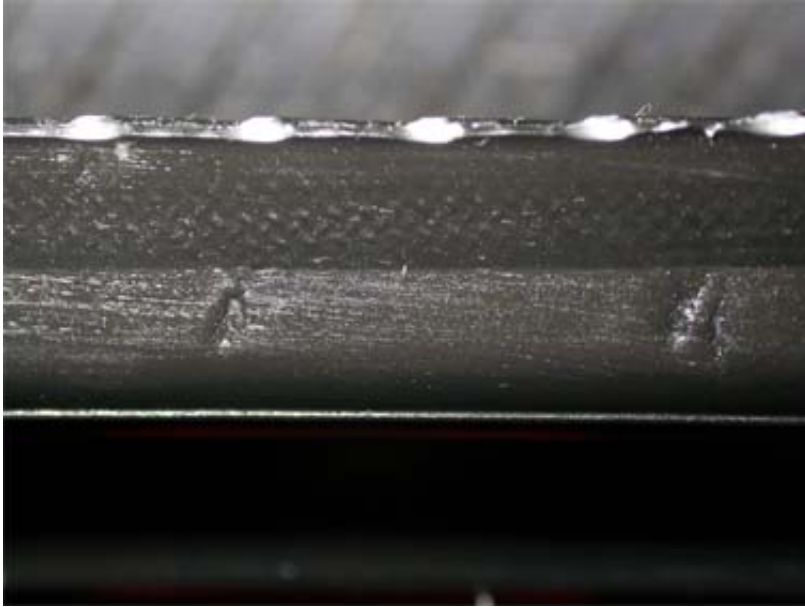


Consequence: discard tyre

Preventive measures: use suitable bead clamp or hold-down device to avoid high tension; make sure bead is properly seated on mounting head; apply sufficient lubricant

Characteristic : impression of tyre tool in bead base / bead heel

Cause: tyre bead was levered over mounting head with unsuitable tyre lever and using excessive forces

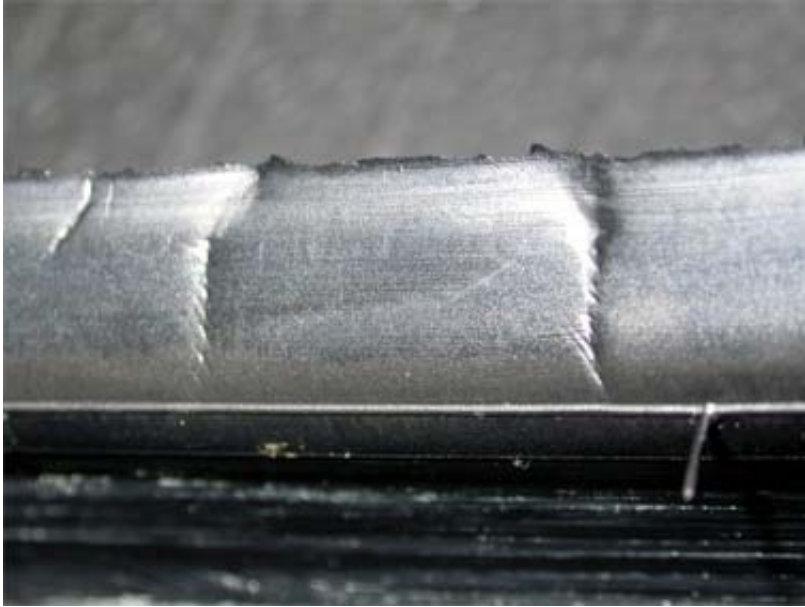


Consequence: check tyre for leaks

Preventive measures: use suitable tyre lever; lever bead over slowly and without tensioning; apply sufficient lubricant

Characteristic : impression of tyre tool in bead base / bead heel, rips

Cause: tyre bead was levered over mounting head with unsuitable tyre lever and using excessive forces

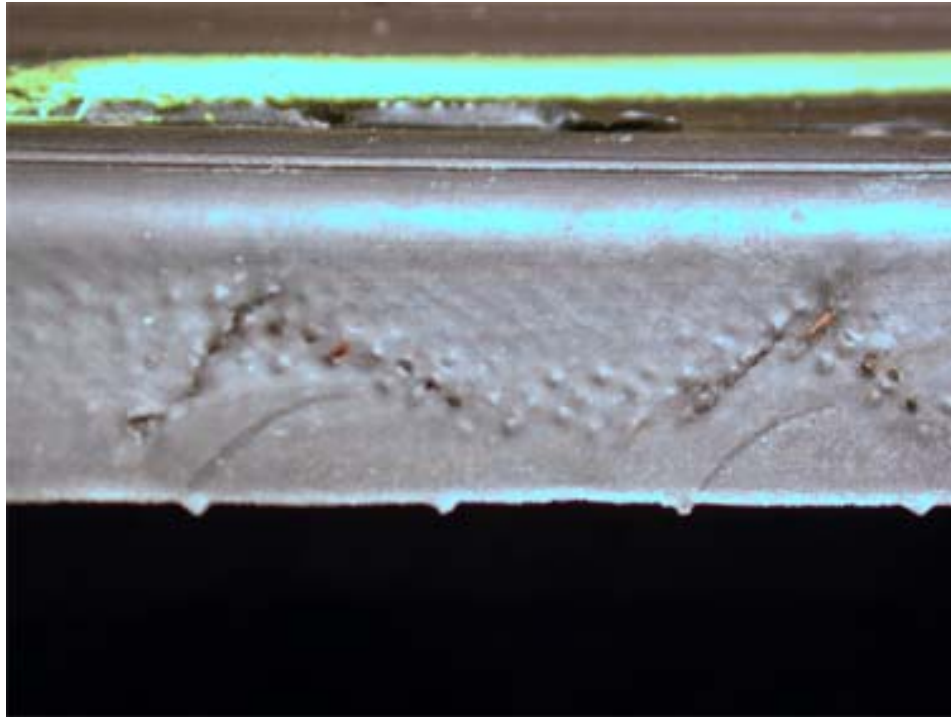


Consequence: discard tyre

Preventive measures: use suitable tyre lever; lever bead over slowly and without tensioning; apply sufficient lubricant

Characteristic : impression of tyre tool in bead base / bead heel
so that even ply is ripped

Cause: tyre bead was levered over mounting head with unsuitable tyre
lever and using excessive forces

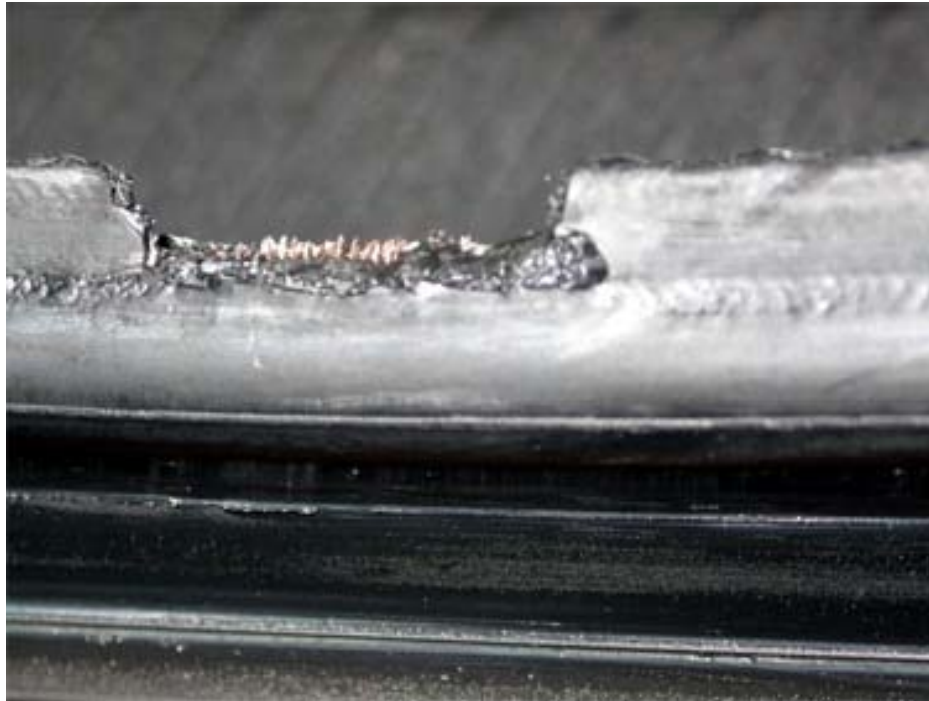


Consequence: discard tyre

Preventive measures: use suitable tyre lever; lever bead over slowly and without
tensioning; apply sufficient lubricant

Characteristic : bead toe torn off

Cause: sharp-edged mounting head not properly positioned; mounting procedure not stopped at once; excessive tension



Consequence: discard tyre

Preventive measures: use suitable bead clamp, position mounting head properly; avoid tension, stop mounting procedure at once when mounting head slips off

Characteristic : bead rubber layer separated as far as to the ply

Cause: tyre lever not inserted as far as necessary and bead rubber layer damaged with tyre lever tip



Consequence: discard tyre

Preventive measures: use suitable tyre lever and suitable bead clamps, insert tyre lever far enough without using excessive forces

Characteristic : bead cover layer distorted during demounting procedure

Cause: excessive tension on bead circumference during demounting procedure

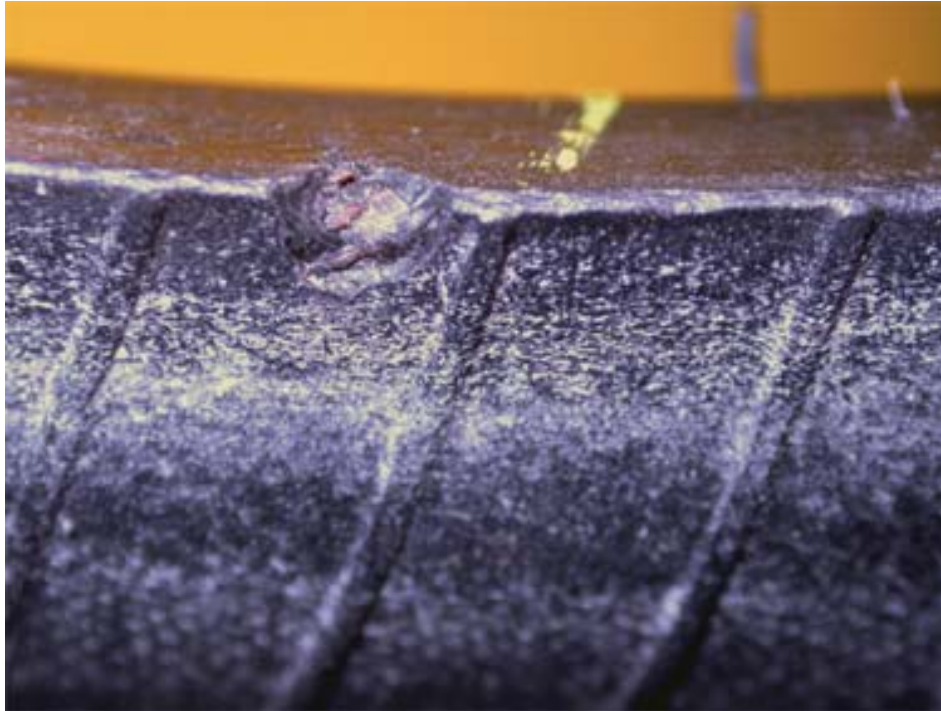


Consequence: check tyre for leaks

Preventive measures: demount slowly and lubricate sufficiently

Characteristic : bead toe cut at point of traction

Cause: excessive tension, sharp-edged rim flange



Consequence: discard tyre when cut reaches as far as to the ply

Preventive measures: apply sufficient lubricant; add rim flange protection; use bead clamp

Characteristic : impression in inner liner over bead toe

Cause: high tension at point of traction, caused by sharp-edged rim flange

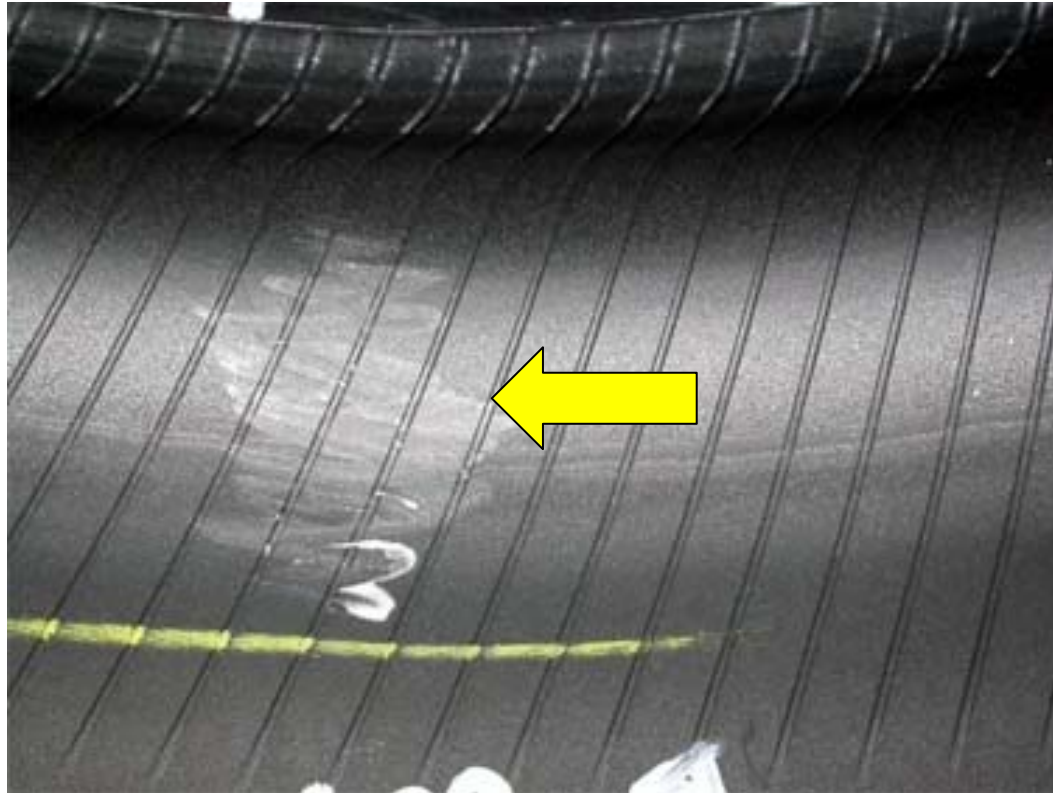


Consequence: discard tyre when inner liner is torn

Preventive measures: mount tyre without tensioning; use rim flange protection in case of sharp-edged rim flanges; apply sufficient lubricant on inner liner

Characteristic : inner liner scratched by tyre lever

Cause: tyre lever inserted too much during demounting procedure



Consequence: discard tyre when inner liner is torn

Preventive measures: use suitable tyre lever; do not insert too much during demounting procedure

Characteristic : inner liner scratched / slightly ripped below bead toe

Cause: sharp-edged mounting head, excessive tension,
not sufficient lubricant



Consequence: discard tyre when inner liner is torn

Preventive measures: use sufficient lubricant; check mounting head for sharp edges and replace, if necessary

Characteristic : bead heel and mounting guide rib damaged

Cause: sharp-edged tyre lever forcibly inserted during demounting procedure



Consequence: check tyre for leaks; when damaged as far as to the ply, discard tyre

Preventive measures: use round tyre lever using less forces and apply sufficient lubricant

Characteristic : bead and core are deformed

Cause: mounting head of tyre changer went too far,
producing excessive tension



Consequence: check inner liner for damage and bead for broken core

Preventive measures: move mounting head to correct position; avoid tension
caused by raising mounting head too much; apply lubricant
on bead and inner liner

Characteristic : bead deformed, side-wall and belt edges bent

Cause: bead breaker blade forcibly applied at fully depth



Consequence: discard tyre for risk of long-term damage caused by separation in tyre structure

Preventive measures: use bead breaker with limited stroke

Characteristic : deformation / compression of belt edge during mounting procedure

Cause: unsuitable bead clamp



Consequence: discard tyre for risk of long-term damage caused by separation in belt edge area, poor uniformity causes vibrations and affects smoothness

Preventive measures: use bead clamps / hold-down devices; do not press too deep