

CT3900 SFBW

ETCS ONBOARD

GAMMA-MODELLE TALENT

| 01.03.2024 | Elektronische Signatur | Elektronische Signatur | Elektronische Signatur | Elektronische Signatur |  ALSTOM Belgium S.A Rue Cambier Dupret 50-52 6001 CHARLEROI | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|------------------------|---|---------------------|---------------|---------------------|
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| DATUM | ERSTELLT | GEPRÜFT | VALIDIERT | GENEHMIGT | | | | |
| Vertraulichkeitskategorie | | | | | APC-000204 | Version G | Sprache DE | Seiten 13 |
| Öffentlich | Eingeschränkt | Vertraulich | Geheim | | | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | |

PMT-IS-TEM-008_G_BLN_DKS_DE

Nutzungsrechte gemäß Vertrag zum Projekt: Ausrüstung elektrische Triebfahrzeuge des Landes Baden-Württemberg - Talent und Flirt-Baureihen - mit ETCS, ATO und anderen Technologien zur Zug-Strecken-Kommunikation. („Vertrag über die Entwicklung, Herstellung, Inbetriebsetzung, Lieferung, Integration und Erlangung der Typgenehmigung und Genehmigungen zum Inverkehrbringen von ETCS- und ATO-Fahrzeugausrüstungen“)

**KEINE HAFTUNG FÜR DIE VOLLSTÄNDIGKEIT UND AKTUALITÄT DER DRUCKVERSION.
Nur nach Prüfung der gültigen Dokumentenversion anzuwenden.**

ÄNDERUNGEN

| Freigabe | Verfasser | Datum | Seite / Abschnitt | Kommentare | CR/NC-ID |
|----------|-----------|------------|----------------------|--|----------|
| A | M. Jost | 06.02.2023 | | Ersterstellung | |
| B | M. Jost | 06.02.2023 | | Fehler bei rotierenden Massen behoben | |
| C | M. Jost | 06.02.2023 | | Fehler bei rotierenden Massen behoben | |
| D | M. Jost | 13.02.2023 | | Update nach Feedback DB | |
| E | M. Jost | 21.08.2023 | | Änderung der GUI-Parameter | |
| F | M. Jost | 16.02.2024 | | Korrektur rotierende Massen | |
| G | M. Jost | 01.03.2024 | | Korrektur rotierende Massen | |

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1 EINLEITUNG

1.1 Zweck

Fahrzeuge der Talent-3-Familie sollen mit ETCS ausgerüstet werden. Deshalb werden für die drei- und fünfteiligen Talent-3-Fahrzeuge ETCS-Gamma-Bremsmodelle in Einfach-, Zweifach- und Dreifachtraktion benötigt. Auf der Basis der Ergebnisse der vorliegenden Dokumentation wurde durch DB Systemtechnik ETCS-Bremskurvenparameter für die Talent-3-Familie definiert.

Die zusammenfassenden Ergebnisse finden sich in diesem Dokument.

1.2 Anwendbare und Referenzdokumente

1.2.1 Referenzdokumente

Diese Dokumente wurden zur Erstellung dieses Plans verwendet:

Tabelle 1 Referenzdokumente

| | Dokumententitel | Referenz |
|------|-----------------|----------------|
| [R1] | ADM-Glossar | REF-IS-INF-005 |

1.2.2 Anwendbare Dokumente

Diese Dokumente werden bei der Durchführung von Aktivitäten verwendet:

Tabelle 2 Anwendbare Dokumente

| | Dokumententitel | Referenz |
|------|-----------------|----------|
| [A1] | | |

1.3 Abkürzungen und Definitionen

Siehe ADM-Glossar [R1].

Darüber hinaus gelten für dieses Dokument folgende Definitionen und Abkürzungen.

Tabelle 3 Abkürzungen

| Abkürzung | Definition |
|-----------|------------|
| | |
| | |
| | |

2 GUTZUSTAND TALENT-3-FAHRZEUGE

2.1 Einfachtraktion 3-Teiler

| Zuglänge | 57 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------------------------|---------|--------|-------|--|-------------------------|------|-----|---------------------------------------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
| Bremshundertstel | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_emergency [m/s²]</td> <td>1,28</td> <td>1,28</td> <td>1,35</td> <td>1,35</td> <td>1,25</td> <td>0,92</td> <td>0,90</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_emergency [m/s ²] | 1,28 | 1,28 | 1,35 | 1,35 | 1,25 | 0,92 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_emergency [m/s ²] | 1,28 | 1,28 | 1,35 | 1,35 | 1,25 | 0,92 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td rowspan="9">Kdry_rst(V,EBCL)</td> <td>EBCL = 0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>EBCL = 1</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,97</td> </tr> <tr> <td>EBCL = 2</td> <td>0,94</td> <td>0,94</td> <td>0,94</td> <td>0,94</td> <td>0,94</td> <td>0,93</td> </tr> <tr> <td>EBCL = 3</td> <td>0,91</td> <td>0,92</td> <td>0,92</td> <td>0,92</td> <td>0,92</td> <td>0,90</td> </tr> <tr> <td>EBCL = 4</td> <td>0,84</td> <td>0,84</td> <td>0,83</td> <td>0,83</td> <td>0,83</td> <td>0,83</td> </tr> <tr> <td>EBCL = 5</td> <td>0,77</td> <td>0,76</td> <td>0,74</td> <td>0,73</td> <td>0,73</td> <td>0,72</td> </tr> <tr> <td>EBCL = 6</td> <td>0,74</td> <td>0,71</td> <td>0,69</td> <td>0,69</td> <td>0,69</td> <td>0,69</td> </tr> <tr> <td>EBCL = 7</td> <td>0,72</td> <td>0,69</td> <td>0,67</td> <td>0,66</td> <td>0,66</td> <td>0,66</td> </tr> <tr> <td>EBCL = 8</td> <td>0,63</td> <td>0,64</td> <td>0,64</td> <td>0,63</td> <td>0,63</td> <td>0,63</td> </tr> <tr> <td>EBCL = 9</td> <td>0,56</td> <td>0,54</td> <td>0,53</td> <td>0,51</td> <td>0,53</td> <td>0,46</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | EBCL = 1 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,97 | EBCL = 2 | 0,94 | 0,94 | 0,94 | 0,94 | 0,94 | 0,93 | EBCL = 3 | 0,91 | 0,92 | 0,92 | 0,92 | 0,92 | 0,90 | EBCL = 4 | 0,84 | 0,84 | 0,83 | 0,83 | 0,83 | 0,83 | EBCL = 5 | 0,77 | 0,76 | 0,74 | 0,73 | 0,73 | 0,72 | EBCL = 6 | 0,74 | 0,71 | 0,69 | 0,69 | 0,69 | 0,69 | EBCL = 7 | 0,72 | 0,69 | 0,67 | 0,66 | 0,66 | 0,66 | EBCL = 8 | 0,63 | 0,64 | 0,64 | 0,63 | 0,63 | 0,63 | EBCL = 9 | 0,56 | 0,54 | 0,53 | 0,51 | 0,53 | 0,46 |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 1 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,97 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 2 | 0,94 | 0,94 | 0,94 | 0,94 | 0,94 | 0,93 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 3 | 0,91 | 0,92 | 0,92 | 0,92 | 0,92 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 4 | 0,84 | 0,84 | 0,83 | 0,83 | 0,83 | 0,83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 5 | 0,77 | 0,76 | 0,74 | 0,73 | 0,73 | 0,72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 6 | 0,74 | 0,71 | 0,69 | 0,69 | 0,69 | 0,69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 7 | 0,72 | 0,69 | 0,67 | 0,66 | 0,66 | 0,66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 8 | 0,63 | 0,64 | 0,64 | 0,63 | 0,63 | 0,63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EBCL = 9 | 0,56 | 0,54 | 0,53 | 0,51 | 0,53 | 0,46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_service [m/s²]</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,91</td> <td>0,90</td> <td>0,88</td> <td>0,78</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidance curve A_brake_normal_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-15</th> <th>15-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_normal_service [m/s²]</td> <td>0,75</td> <td>0,45</td> <td>0,3</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-60</th> <th>60-30</th> <th>30-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn+ [m/s²]</td> <td>4</td> <td>9</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-20</th> <th>20-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn- [m/s²]</td> <td>0</td> <td>10</td> <td>9</td> <td>7</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.2 Einfachtraktion 5-Teiler

| Zuglänge | 89 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------------------------|---------|--------|-------|--|-------------------------|------|-----|-------------------------------------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
| Bremshundertstel | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_emergency m/s²</td> <td>1,31</td> <td>1,27</td> <td>1,34</td> <td>1,41</td> <td>1,40</td> <td>1,16</td> <td>1,10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_emergency m/s ² | 1,31 | 1,27 | 1,34 | 1,41 | 1,40 | 1,16 | 1,10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_emergency m/s ² | 1,31 | 1,27 | 1,34 | 1,41 | 1,40 | 1,16 | 1,10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td rowspan="9">Kdry_rst(V,EBCL)</td> <td>EBCL = 0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>EBCL = 1</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> <td>0,98</td> </tr> <tr> <td>EBCL = 2</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,94</td> </tr> <tr> <td>EBCL = 3</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,91</td> </tr> <tr> <td>EBCL = 4</td> <td>0,88</td> <td>0,88</td> <td>0,88</td> <td>0,88</td> <td>0,88</td> <td>0,87</td> </tr> <tr> <td>EBCL = 5</td> <td>0,82</td> <td>0,76</td> <td>0,75</td> <td>0,79</td> <td>0,82</td> <td>0,80</td> </tr> <tr> <td>EBCL = 6</td> <td>0,79</td> <td>0,72</td> <td>0,71</td> <td>0,74</td> <td>0,78</td> <td>0,77</td> </tr> <tr> <td>EBCL = 7</td> <td>0,76</td> <td>0,70</td> <td>0,69</td> <td>0,72</td> <td>0,76</td> <td>0,75</td> </tr> <tr> <td>EBCL = 8</td> <td>0,72</td> <td>0,68</td> <td>0,67</td> <td>0,69</td> <td>0,72</td> <td>0,71</td> </tr> <tr> <td>EBCL = 9</td> <td>0,66</td> <td>0,60</td> <td>0,60</td> <td>0,62</td> <td>0,65</td> <td>0,63</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | EBCL = 1 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | EBCL = 2 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | EBCL = 3 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,91 | EBCL = 4 | 0,88 | 0,88 | 0,88 | 0,88 | 0,88 | 0,87 | EBCL = 5 | 0,82 | 0,76 | 0,75 | 0,79 | 0,82 | 0,80 | EBCL = 6 | 0,79 | 0,72 | 0,71 | 0,74 | 0,78 | 0,77 | EBCL = 7 | 0,76 | 0,70 | 0,69 | 0,72 | 0,76 | 0,75 | EBCL = 8 | 0,72 | 0,68 | 0,67 | 0,69 | 0,72 | 0,71 | EBCL = 9 | 0,66 | 0,60 | 0,60 | 0,62 | 0,65 | 0,63 |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 1 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 2 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 3 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,91 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 4 | 0,88 | 0,88 | 0,88 | 0,88 | 0,88 | 0,87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 5 | 0,82 | 0,76 | 0,75 | 0,79 | 0,82 | 0,80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 6 | 0,79 | 0,72 | 0,71 | 0,74 | 0,78 | 0,77 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 7 | 0,76 | 0,70 | 0,69 | 0,72 | 0,76 | 0,75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 8 | 0,72 | 0,68 | 0,67 | 0,69 | 0,72 | 0,71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EBCL = 9 | 0,66 | 0,60 | 0,60 | 0,62 | 0,65 | 0,63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_service [m/s²]</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,95</td> <td>0,95</td> <td>0,94</td> <td>0,92</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,95 | 0,95 | 0,94 | 0,92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,95 | 0,95 | 0,94 | 0,92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidance curve A_brake_normal_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-15</th> <th>15-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_normal_service [m/s²]</td> <td>0,75</td> <td>0,45</td> <td>0,3</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-60</th> <th>60-30</th> <th>30-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn+ [m/s²]</td> <td>4</td> <td>9</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-20</th> <th>20-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn- [m/s²]</td> <td>0</td> <td>10</td> <td>9</td> <td>7</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.3 Zweifachtraktion 3-Teiler + 3-Teiler

| Zuglänge | 113 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------|----------|---------|--------|--|-------------------------|-------|------|---------------------------------------|------------------|----------|------|------|------|------|------|---|---|--|----------|---|---|---|---|---|---|---|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|------|
| Bremshundertstel | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_emergency [m/s²]</td> <td>1,28</td> <td>1,28</td> <td>1,35</td> <td>1,35</td> <td>1,25</td> <td>0,92</td> <td>0,90</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_emergency [m/s ²] | 1,28 | 1,28 | 1,35 | 1,35 | 1,25 | 0,92 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_emergency [m/s ²] | 1,28 | 1,28 | 1,35 | 1,35 | 1,25 | 0,92 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | <table border="1"> <thead> <tr> <th rowspan="2">Geschwindigkeit [km/h]</th> <th rowspan="2"></th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>Kdry_rst(V,EBCL)</td> <td>EBCL = 0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>EBCL = 1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>EBCL = 2</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,96</td> <td>0,96</td> </tr> <tr> <td></td> <td>EBCL = 3</td> <td>0,94</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,93</td> </tr> <tr> <td></td> <td>EBCL = 4</td> <td>0,92</td> <td>0,91</td> <td>0,91</td> <td>0,91</td> <td>0,91</td> <td>0,90</td> <td>0,90</td> </tr> <tr> <td></td> <td>EBCL = 5</td> <td>0,88</td> <td>0,87</td> <td>0,87</td> <td>0,86</td> <td>0,86</td> <td>0,86</td> <td>0,86</td> </tr> <tr> <td></td> <td>EBCL = 6</td> <td>0,86</td> <td>0,85</td> <td>0,84</td> <td>0,83</td> <td>0,84</td> <td>0,83</td> <td>0,83</td> </tr> <tr> <td></td> <td>EBCL = 7</td> <td>0,84</td> <td>0,83</td> <td>0,82</td> <td>0,81</td> <td>0,82</td> <td>0,81</td> <td>0,81</td> </tr> <tr> <td></td> <td>EBCL = 8</td> <td>0,81</td> <td>0,79</td> <td>0,79</td> <td>0,78</td> <td>0,79</td> <td>0,78</td> <td>0,78</td> </tr> <tr> <td></td> <td>EBCL = 9</td> <td>0,76</td> <td>0,75</td> <td>0,73</td> <td>0,73</td> <td>0,72</td> <td>0,72</td> <td>0,72</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,96 | 0,96 | | EBCL = 3 | 0,94 | 0,95 | 0,95 | 0,95 | 0,95 | 0,93 | 0,93 | | EBCL = 4 | 0,92 | 0,91 | 0,91 | 0,91 | 0,91 | 0,90 | 0,90 | | EBCL = 5 | 0,88 | 0,87 | 0,87 | 0,86 | 0,86 | 0,86 | 0,86 | | EBCL = 6 | 0,86 | 0,85 | 0,84 | 0,83 | 0,84 | 0,83 | 0,83 | | EBCL = 7 | 0,84 | 0,83 | 0,82 | 0,81 | 0,82 | 0,81 | 0,81 | | EBCL = 8 | 0,81 | 0,79 | 0,79 | 0,78 | 0,79 | 0,78 | 0,78 | | EBCL = 9 | 0,76 | 0,75 | 0,73 | 0,73 | 0,72 | 0,72 | 0,72 |
| Geschwindigkeit [km/h] | | | | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,96 | 0,96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 3 | 0,94 | 0,95 | 0,95 | 0,95 | 0,95 | 0,93 | 0,93 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 4 | 0,92 | 0,91 | 0,91 | 0,91 | 0,91 | 0,90 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 5 | 0,88 | 0,87 | 0,87 | 0,86 | 0,86 | 0,86 | 0,86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 6 | 0,86 | 0,85 | 0,84 | 0,83 | 0,84 | 0,83 | 0,83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 7 | 0,84 | 0,83 | 0,82 | 0,81 | 0,82 | 0,81 | 0,81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 8 | 0,81 | 0,79 | 0,79 | 0,78 | 0,79 | 0,78 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 9 | 0,76 | 0,75 | 0,73 | 0,73 | 0,72 | 0,72 | 0,72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_service [m/s²]</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,91</td> <td>0,90</td> <td>0,88</td> <td>0,78</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidance curve A_brake_normal_service (V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-15</th> <th>15-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_normal_service [m/s²]</td> <td>0,75</td> <td>0,45</td> <td>0,3</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-60</th> <th>60-30</th> <th>30-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn+ [m/s²]</td> <td>4</td> <td>9</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-20</th> <th>20-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn- [m/s²]</td> <td>0</td> <td>10</td> <td>9</td> <td>7</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.4 Zweifachtraktion 5-Teiler + 3-Teiler

| Zuglänge | 145 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------------------------|---------|--------|-------|--|-------------------------|------|-----|---------------------------------------|----------|------|------|------|------|------|------|----------|---|---|---|---|---|---|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
| Bremshundertstel | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_emergency [m/s²]</td> <td>1,30</td> <td>1,28</td> <td>1,35</td> <td>1,39</td> <td>1,36</td> <td>1,07</td> <td>1,04</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_emergency [m/s ²] | 1,30 | 1,28 | 1,35 | 1,39 | 1,36 | 1,07 | 1,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_emergency [m/s ²] | 1,30 | 1,28 | 1,35 | 1,39 | 1,36 | 1,07 | 1,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td rowspan="9">Kdry_rst(V,EBCL)</td> <td>EBCL = 0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>EBCL = 1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>EBCL = 2</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,96</td> </tr> <tr> <td>EBCL = 3</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,95</td> <td>0,94</td> </tr> <tr> <td>EBCL = 4</td> <td>0,93</td> <td>0,92</td> <td>0,92</td> <td>0,92</td> <td>0,92</td> <td>0,91</td> </tr> <tr> <td>EBCL = 5</td> <td>0,89</td> <td>0,87</td> <td>0,86</td> <td>0,88</td> <td>0,88</td> <td>0,88</td> </tr> <tr> <td>EBCL = 6</td> <td>0,87</td> <td>0,84</td> <td>0,83</td> <td>0,84</td> <td>0,86</td> <td>0,85</td> </tr> <tr> <td>EBCL = 7</td> <td>0,86</td> <td>0,82</td> <td>0,81</td> <td>0,82</td> <td>0,84</td> <td>0,83</td> </tr> <tr> <td>EBCL = 8</td> <td>0,83</td> <td>0,80</td> <td>0,79</td> <td>0,80</td> <td>0,82</td> <td>0,80</td> </tr> <tr> <td>EBCL = 9</td> <td>0,80</td> <td>0,75</td> <td>0,74</td> <td>0,76</td> <td>0,77</td> <td>0,75</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,96 | EBCL = 3 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | EBCL = 4 | 0,93 | 0,92 | 0,92 | 0,92 | 0,92 | 0,91 | EBCL = 5 | 0,89 | 0,87 | 0,86 | 0,88 | 0,88 | 0,88 | EBCL = 6 | 0,87 | 0,84 | 0,83 | 0,84 | 0,86 | 0,85 | EBCL = 7 | 0,86 | 0,82 | 0,81 | 0,82 | 0,84 | 0,83 | EBCL = 8 | 0,83 | 0,80 | 0,79 | 0,80 | 0,82 | 0,80 | EBCL = 9 | 0,80 | 0,75 | 0,74 | 0,76 | 0,77 | 0,75 |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 3 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 4 | 0,93 | 0,92 | 0,92 | 0,92 | 0,92 | 0,91 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 5 | 0,89 | 0,87 | 0,86 | 0,88 | 0,88 | 0,88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 6 | 0,87 | 0,84 | 0,83 | 0,84 | 0,86 | 0,85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 7 | 0,86 | 0,82 | 0,81 | 0,82 | 0,84 | 0,83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 8 | 0,83 | 0,80 | 0,79 | 0,80 | 0,82 | 0,80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EBCL = 9 | 0,80 | 0,75 | 0,74 | 0,76 | 0,77 | 0,75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_service [m/s²]</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,91</td> <td>0,90</td> <td>0,88</td> <td>0,78</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidance curve A_brake_normal_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-15</th> <th>15-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_normal_service [m/s²]</td> <td>0,75</td> <td>0,45</td> <td>0,3</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-60</th> <th>60-30</th> <th>30-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn+ [m/s²]</td> <td>4</td> <td>9</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-20</th> <th>20-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn- [m/s²]</td> <td>0</td> <td>10</td> <td>9</td> <td>7</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.5 Zweifachtraktion 5-Teiler + 5-Teiler

| Zuglänge | 177 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------|---------|--------|-------|--|-------------------------|------|-----|---------------------------------------|----------|------|------|------|------|------|------|--|----------|---|---|---|---|---|---|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|--|----------|------|------|------|------|------|------|
| Bremshundertstel | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_emergency [m/s²]</td> <td>1,31</td> <td>1,27</td> <td>1,34</td> <td>1,41</td> <td>1,40</td> <td>1,16</td> <td>1,10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_emergency [m/s ²] | 1,31 | 1,27 | 1,34 | 1,41 | 1,40 | 1,16 | 1,10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_emergency [m/s ²] | 1,31 | 1,27 | 1,34 | 1,41 | 1,40 | 1,16 | 1,10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | <table border="1"> <thead> <tr> <th rowspan="2">Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>Kdry_rst(V,EBCL)</td> <td>EBCL = 0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>EBCL = 1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>EBCL = 2</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> <td>0,97</td> </tr> <tr> <td></td> <td>EBCL = 3</td> <td>0,95</td> <td>0,95</td> <td>0,96</td> <td>0,95</td> <td>0,95</td> <td>0,94</td> </tr> <tr> <td></td> <td>EBCL = 4</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,93</td> <td>0,92</td> </tr> <tr> <td></td> <td>EBCL = 5</td> <td>0,90</td> <td>0,88</td> <td>0,87</td> <td>0,89</td> <td>0,90</td> <td>0,90</td> </tr> <tr> <td></td> <td>EBCL = 6</td> <td>0,88</td> <td>0,85</td> <td>0,85</td> <td>0,86</td> <td>0,88</td> <td>0,87</td> </tr> <tr> <td></td> <td>EBCL = 7</td> <td>0,87</td> <td>0,84</td> <td>0,83</td> <td>0,85</td> <td>0,86</td> <td>0,85</td> </tr> <tr> <td></td> <td>EBCL = 8</td> <td>0,85</td> <td>0,82</td> <td>0,81</td> <td>0,83</td> <td>0,84</td> <td>0,83</td> </tr> <tr> <td></td> <td>EBCL = 9</td> <td>0,81</td> <td>0,77</td> <td>0,76</td> <td>0,79</td> <td>0,82</td> <td>0,79</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | | EBCL = 3 | 0,95 | 0,95 | 0,96 | 0,95 | 0,95 | 0,94 | | EBCL = 4 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,92 | | EBCL = 5 | 0,90 | 0,88 | 0,87 | 0,89 | 0,90 | 0,90 | | EBCL = 6 | 0,88 | 0,85 | 0,85 | 0,86 | 0,88 | 0,87 | | EBCL = 7 | 0,87 | 0,84 | 0,83 | 0,85 | 0,86 | 0,85 | | EBCL = 8 | 0,85 | 0,82 | 0,81 | 0,83 | 0,84 | 0,83 | | EBCL = 9 | 0,81 | 0,77 | 0,76 | 0,79 | 0,82 | 0,79 |
| Geschwindigkeit [km/h] | 160-130 | | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 2 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 3 | 0,95 | 0,95 | 0,96 | 0,95 | 0,95 | 0,94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 4 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 5 | 0,90 | 0,88 | 0,87 | 0,89 | 0,90 | 0,90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 6 | 0,88 | 0,85 | 0,85 | 0,86 | 0,88 | 0,87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 7 | 0,87 | 0,84 | 0,83 | 0,85 | 0,86 | 0,85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 8 | 0,85 | 0,82 | 0,81 | 0,83 | 0,84 | 0,83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EBCL = 9 | 0,81 | 0,77 | 0,76 | 0,79 | 0,82 | 0,79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-130</th> <th>130-80</th> <th>80-40</th> <th>40-20</th> <th>20-15</th> <th>15-5</th> <th>5-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_service [m/s²]</td> <td>0,95</td> <td>0,95</td> <td>0,93</td> <td>0,95</td> <td>0,95</td> <td>0,94</td> <td>0,92</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,95 | 0,95 | 0,94 | 0,92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,95 | 0,95 | 0,94 | 0,92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guidance curve A_brake_normal_service(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-15</th> <th>15-0</th> </tr> </thead> <tbody> <tr> <td>A_brake_normal_service [m/s²]</td> <td>0,75</td> <td>0,45</td> <td>0,3</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-60</th> <th>60-30</th> <th>30-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn+ [m/s²]</td> <td>4</td> <td>9</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | <table border="1"> <thead> <tr> <th>Geschwindigkeit [km/h]</th> <th>160-30</th> <th>30-20</th> <th>20-10</th> <th>10-0</th> </tr> </thead> <tbody> <tr> <td>Kn- [m/s²]</td> <td>0</td> <td>10</td> <td>9</td> <td>7</td> </tr> </tbody> </table> | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.6 Dreifachtraktion 3-Teiler + 3-Teiler + 3-Teiler

| | | | | | | | | | |
|--|--|----------|--------|-------|-------|-------|------|------|------|
| Zuglänge | 169 m | | | | | | | | |
| Bremshundertstel | 194 | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_emergency [m/s ²] | 1,28 | 1,28 | 1,35 | 1,35 | 1,25 | 0,92 | 1,10 | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 2 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,97 | 0,97 |
| | | EBCL = 3 | 0,96 | 0,96 | 0,96 | 0,96 | 0,96 | 0,95 | 0,95 |
| | | EBCL = 4 | 0,94 | 0,94 | 0,94 | 0,94 | 0,94 | 0,93 | 0,93 |
| | | EBCL = 5 | 0,92 | 0,91 | 0,91 | 0,91 | 0,91 | 0,90 | 0,90 |
| | | EBCL = 6 | 0,90 | 0,89 | 0,89 | 0,89 | 0,89 | 0,88 | 0,88 |
| | | EBCL = 7 | 0,88 | 0,88 | 0,87 | 0,87 | 0,87 | 0,86 | 0,86 |
| | | EBCL = 8 | 0,86 | 0,86 | 0,85 | 0,85 | 0,85 | 0,84 | 0,84 |
| EBCL = 9 | | 0,83 | 0,83 | 0,82 | 0,80 | 0,81 | 0,80 | 0,80 | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | |
| Guidance curve A_brake_normal_service(V) | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | |
| | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | |
| | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | |
| | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | |

2.7 Dreifachtraktion 5-Teiler + 3-Teiler + 3-Teiler

| | | | | | | | | | |
|--|--|----------|--------|-------|-------|-------|------|------|------|
| Zuglänge | 201 m | | | | | | | | |
| Bremshundertstel | 194 | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_emergency [m/s ²] | 1,29 | 1,28 | 1,36 | 1,38 | 1,33 | 1,03 | 1,01 | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 2 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,97 | 0,97 |
| | | EBCL = 3 | 0,96 | 0,96 | 0,96 | 0,96 | 0,96 | 0,95 | 0,95 |
| | | EBCL = 4 | 0,95 | 0,95 | 0,94 | 0,94 | 0,94 | 0,94 | 0,94 |
| | | EBCL = 5 | 0,92 | 0,91 | 0,90 | 0,91 | 0,92 | 0,91 | 0,91 |
| | | EBCL = 6 | 0,91 | 0,89 | 0,88 | 0,89 | 0,90 | 0,89 | 0,89 |
| | | EBCL = 7 | 0,89 | 0,87 | 0,86 | 0,87 | 0,88 | 0,87 | 0,87 |
| | | EBCL = 8 | 0,87 | 0,85 | 0,84 | 0,85 | 0,86 | 0,85 | 0,85 |
| EBCL = 9 | | 0,85 | 0,82 | 0,82 | 0,83 | 0,82 | 0,81 | 0,81 | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | |
| Guidance curve A_brake_normal_service (V) | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | |
| | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | |
| | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | |
| | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | |

2.8 Dreifachtraktion 5-Teiler + 5-Teiler + 3-Teiler

| | | | | | | | | | |
|---|--|----------|--------|-------|-------|-------|------|------|------|
| Zuglänge | 233 m | | | | | | | | |
| Bremshundertstel | 194 | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_emergency [m/s ²] | 1,30 | 1,28 | 1,35 | 1,40 | 1,39 | 1,11 | 1,06 | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 2 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 |
| | | EBCL = 3 | 0,96 | 0,97 | 0,97 | 0,96 | 0,96 | 0,96 | 0,96 |
| | | EBCL = 4 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | 0,94 |
| | | EBCL = 5 | 0,93 | 0,92 | 0,91 | 0,92 | 0,91 | 0,92 | 0,92 |
| | | EBCL = 6 | 0,91 | 0,89 | 0,89 | 0,90 | 0,89 | 0,90 | 0,90 |
| | | EBCL = 7 | 0,90 | 0,88 | 0,87 | 0,88 | 0,87 | 0,89 | 0,89 |
| | | EBCL = 8 | 0,88 | 0,86 | 0,86 | 0,87 | 0,86 | 0,87 | 0,87 |
| EBCL = 9 | | 0,86 | 0,84 | 0,82 | 0,84 | 0,83 | 0,84 | 0,84 | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,91 | 0,90 | 0,88 | 0,78 | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | |
| Guidance curve A_brake_normal_service (V) | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | |
| | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | |
| | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | |
| | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | |

2.9 Dreifachtraktion 5-Teiler + 5-Teiler + 5-Teiler

| | | | | | | | | | |
|---|--|----------|--------|-------|-------|-------|------|------|------|
| Zuglänge | 266 m | | | | | | | | |
| Brake Position (Passenger train in P, freight train in P oder freight train in G) | Passenger train in P | | | | | | | | |
| Bremshundertstel | 194 | | | | | | | | |
| Nominale Schnellbremsverzögerung A_brake_emergency(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_emergency [m/s ²] | 1,31 | 1,27 | 1,34 | 1,41 | 1,40 | 1,16 | 1,10 | |
| Sicherheitsfaktor auf trockener Schiene Kdry_rst(V,EBCL) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | Kdry_rst(V,EBCL) | EBCL = 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | EBCL = 2 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 | 0,98 |
| | | EBCL = 3 | 0,97 | 0,97 | 0,97 | 0,97 | 0,97 | 0,96 | 0,96 |
| | | EBCL = 4 | 0,95 | 0,95 | 0,95 | 0,95 | 0,95 | 0,94 | 0,94 |
| | | EBCL = 5 | 0,94 | 0,92 | 0,92 | 0,93 | 0,93 | 0,93 | 0,93 |
| | | EBCL = 6 | 0,92 | 0,90 | 0,90 | 0,91 | 0,92 | 0,91 | 0,91 |
| | | EBCL = 7 | 0,91 | 0,89 | 0,88 | 0,89 | 0,90 | 0,90 | 0,90 |
| EBCL = 8 | | 0,89 | 0,87 | 0,87 | 0,88 | 0,89 | 0,88 | 0,88 | |
| EBCL = 9 | 0,87 | 0,83 | 0,83 | 0,85 | 0,87 | 0,85 | 0,85 | | |
| Sicherheitsfaktor auf nasser Schiene Kwet_rst(V) | 0,8 | | | | | | | | |
| Nominale Vollbremsverzögerung A_brake_service(V) | Geschwindigkeit [km/h] | 160-130 | 130-80 | 80-40 | 40-20 | 20-15 | 15-5 | 5-0 | |
| | A_brake_service [m/s ²] | 0,95 | 0,95 | 0,93 | 0,95 | 0,95 | 0,94 | 0,92 | |
| Äquivalente Aufbauzeit bei Schnellbremsung T_brake_emergency | 0,9 s | | | | | | | | |
| Äquivalente Aufbauzeit bei Vollbremsungen T_brake_service | 1,45 s | | | | | | | | |
| Nominale rotierende Masse oder Minimum- und Maximum Wert M_rotating_nom M_rotating_min M_rotating_max | 4% | | | | | | | | |
| Guidance curve A_brake_normal_service (V) | Geschwindigkeit [km/h] | 160-30 | 30-15 | 15-0 | | | | | |
| | A_brake_normal_service [m/s ²] | 0,75 | 0,45 | 0,3 | | | | | |
| GUI-Korrekturfaktor in der Steigung Kn+(V) | Geschwindigkeit [km/h] | 160-60 | 60-30 | 30-10 | 10-0 | | | | |
| | Kn+ [m/s ²] | 4 | 9 | 5 | 10 | | | | |
| GUI-Korrekturfaktor im Gefälle Kn-(V) | Geschwindigkeit [km/h] | 160-30 | 30-20 | 20-10 | 10-0 | | | | |
| | Kn- [m/s ²] | 0 | 10 | 9 | 7 | | | | |
| Service Brake Interface (ja/nein) | Ja | | | | | | | | |
| Traction Cut Off Interface (ja/nein) | Nein | | | | | | | | |
| Traction Cut Off Time T_traction_cut_off | 0,5 s | | | | | | | | |