

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W50Xec Increased Safety - Voltage Class AT - 5.1kV to 6.6kV

|                       |                         |                                 |                          |
|-----------------------|-------------------------|---------------------------------|--------------------------|
| Frame                 | : W50 355J/H            | Locked rotor time               | : 20 s (hot) 36 s (cold) |
| Output                | : 270 kW (365 HP)       | Temperature rise <sup>4</sup>   | : 80 K                   |
| Poles                 | : 2                     | Duty cycle                      | : S1                     |
| Frequency             | : 50 Hz                 | Ambient temperature             | : -20 °C to +40 °C       |
| Rated voltage         | : 6600 V                | Altitude                        | : 1000 m.a.s.l           |
| Rated current         | : 28.0 A                | Degree of protection            | : IP55                   |
| L. R. Amperes         | : 206 A                 | Cooling method                  | : IC411 - TEFC           |
| LRC (p.u.)            | : 7.3                   | Mounting                        | : B3                     |
| No load current       | : 7.50 A                | Direct of rotation <sup>1</sup> | : Clockwise              |
| Rated speed           | : 2970 rpm              | Noise level <sup>2</sup>        | : 78.0 dB(A)             |
| Slip                  | : 1.00 %                | Starting method                 | : Direct On Line         |
| Rated torque          | : 868 Nm                | Approx. weight <sup>3</sup>     | : 2270 kg                |
| Locked rotor torque   | : 120 %                 |                                 |                          |
| Pull up torque        | : 90 %                  |                                 |                          |
| Breakdown torque      | : 245 %                 |                                 |                          |
| Insulation class      | : F                     |                                 |                          |
| Service factor        | : 1.00                  |                                 |                          |
| Moment of inertia (J) | : 5.86 kgm <sup>2</sup> |                                 |                          |

|                |       |      |      |      |  |
|----------------|-------|------|------|------|--|
| Output         | Start | 50%  | 75%  | 100% | Load type: -                           |
| Efficiency (%) | -     | 94.5 | 95.1 | 94.9 | Load torque: -                         |
| Power factor   | 0.25  | 0.79 | 0.87 | 0.89 | Load inertia (J=GD <sup>2</sup> /4): - |

|                      |                  |               |
|----------------------|------------------|---------------|
|                      | Drive end        | Non drive end |
| Bearing type         | 6314-C3          | 6314-C3       |
| Lubrication interval | 4500 h           | 4500 h        |
| Lubricant amount     | 27 g             | 27 g          |
| Lubricant type       | MOBIL POLYREX EM |               |

**Notes:**

Class I, Div. 2

DERATING FROM W50XEC INCREASED SAFETY - VOLTAGE CLASS AT - 5.1KV TO 6.6KV MOTOR

**FOR APPROVAL**

Approved  
 Approved with comments  
 Not approved

|           |               |               |           |                |
|-----------|---------------|---------------|-----------|----------------|
| Standards | Specification | : IEC 60034-1 | Vibration | : IEC 60034-14 |
|           | Tests         | : IEC 60034-2 | Tolerance | : IEC 60034-1  |
|           | Noise         | : IEC 60034-9 |           |                |

This revision replaces and cancels the previous one, which must be eliminated.

- (1) When viewed from the drive end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight subject to changes after manufacturing process.
- (4) At the rated point.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

| Rev.         | Summary of changes | Performed   | Checked | Date        |               |
|--------------|--------------------|-------------|---------|-------------|---------------|
|              |                    |             |         |             |               |
| Performed by | e-aingles          | 094056/2021 |         | Page<br>1/1 |               |
| Checked by   | AUTOMATICO         |             |         |             | Revision<br>0 |
| Date         | 07/04/2021         |             |         |             |               |

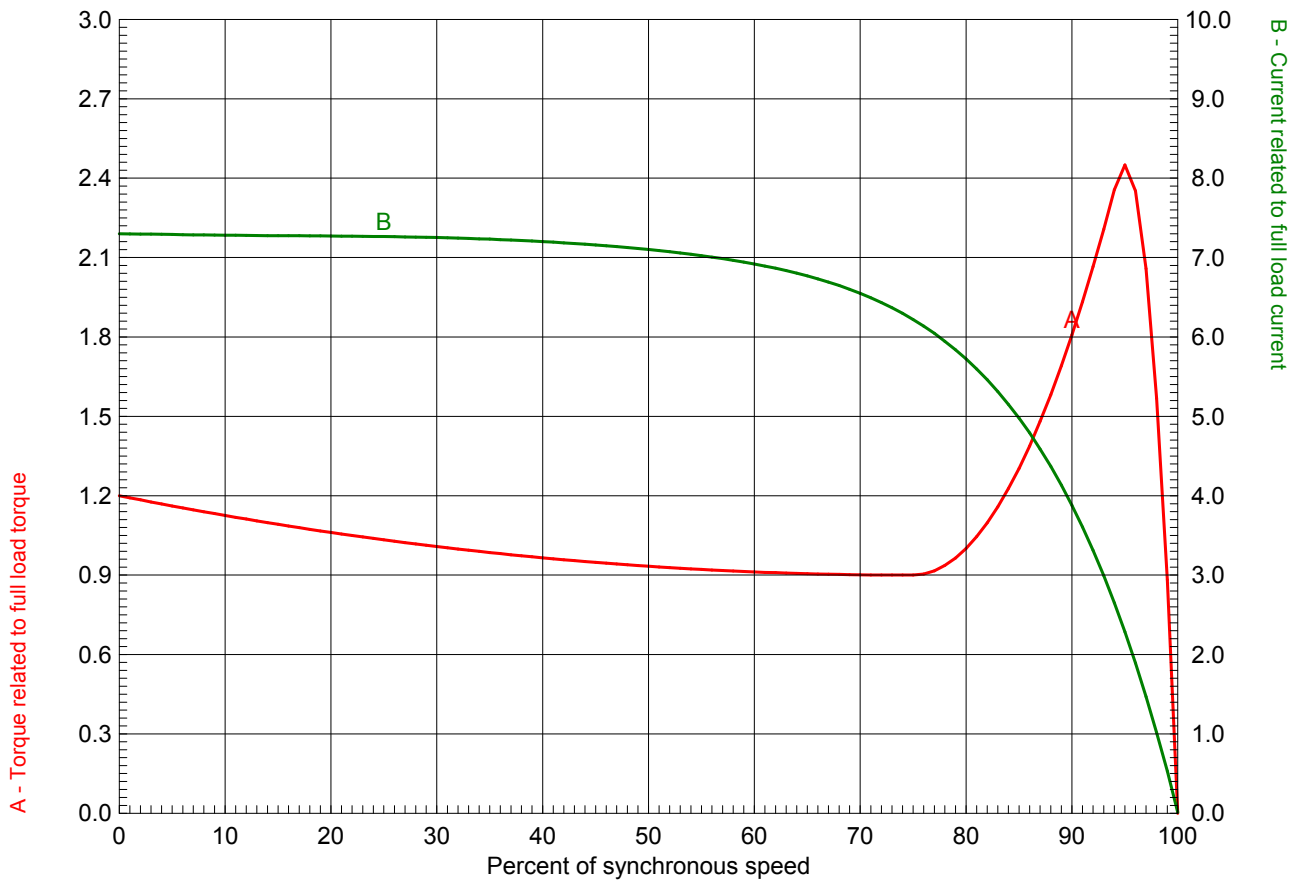
# TORQUE AND CURRENT X SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W50Xec Increased Safety - Voltage Class AT - 5.1kV to 6.6kV



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 Approved  
 Approved with comments  
 Not approved

Performance : 270 kW (365 HP) 6600 V 50 Hz 2P W50 355J/H

|                     |            |                       |                         |
|---------------------|------------|-----------------------|-------------------------|
| Rated current       | : 28.0 A   | Moment of inertia (J) | : 5.86 kgm <sup>2</sup> |
| LRC (p.u.)          | : 7.3      | Duty cycle            | : S1                    |
| Rated torque        | : 868 Nm   | Insulation class      | : F                     |
| Locked rotor torque | : 120 %    | Service factor        | : 1.00                  |
| Breakdown torque    | : 245 %    | Temperature rise      | : 80 K                  |
| Rated speed         | : 2970 rpm |                       |                         |

Locked rotor time 100% : 20 s (hot) 36 s (cold)  
 Load inertia (J=GD<sup>2</sup>/4) : 5.86053 kgm<sup>2</sup>

| Rev.         | Summary of changes | Performed   | Checked | Date |          |
|--------------|--------------------|-------------|---------|------|----------|
|              |                    |             |         |      |          |
| Performed by | e-aingesi          | 094056/2021 |         |      |          |
| Checked by   | AUTOMATICO         |             |         | Page | Revision |
| Date         | 07/04/2021         |             |         | 1/1  | 0        |

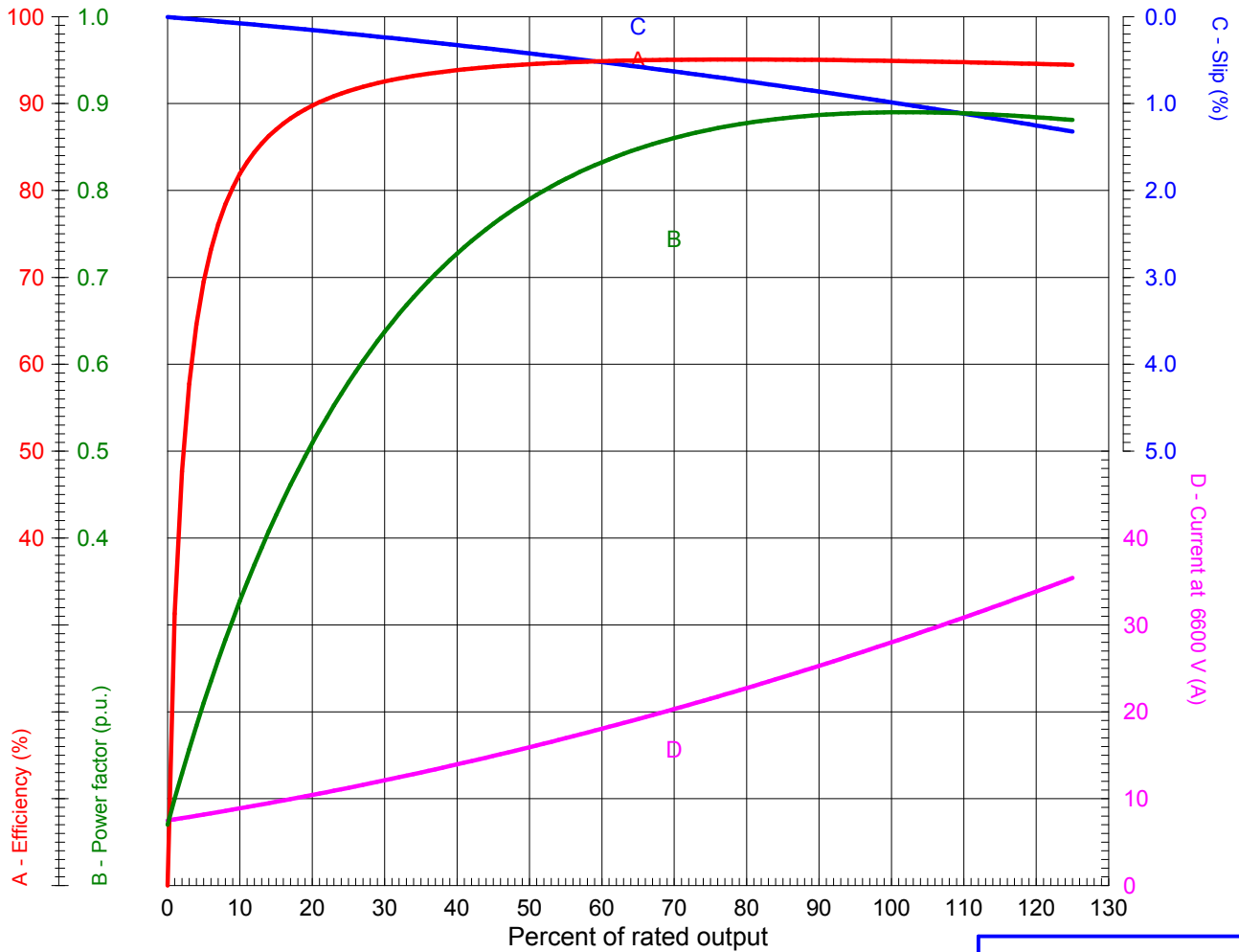
# LOAD PERFORMANCE CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer : \_\_\_\_\_

Product line : W50Xec Increased Safety - Voltage Class AT - 5.1kV to 6.6kV



**FOR APPROVAL**  
 Approved  
 Approved with comments  
 Not approved

Performance : 270 kW (365 HP) 6600 V 50 Hz 2P W50 355J/H

Rated current : 28.0 A  
 LRC (p.u.) : 7.3  
 Rated torque : 868 Nm  
 Locked rotor torque : 120 %  
 Breakdown torque : 245 %  
 Rated speed : 2970 rpm

Moment of inertia (J) : 5.86 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

| Rev.         | Summary of changes | Performed   | Checked | Date     |
|--------------|--------------------|-------------|---------|----------|
|              |                    |             |         |          |
| Performed by | e-aingesi          | 094056/2021 |         |          |
| Checked by   | AUTOMATICO         | Page        |         | Revision |
| Date         | 07/04/2021         | 1/1         |         | 0        |

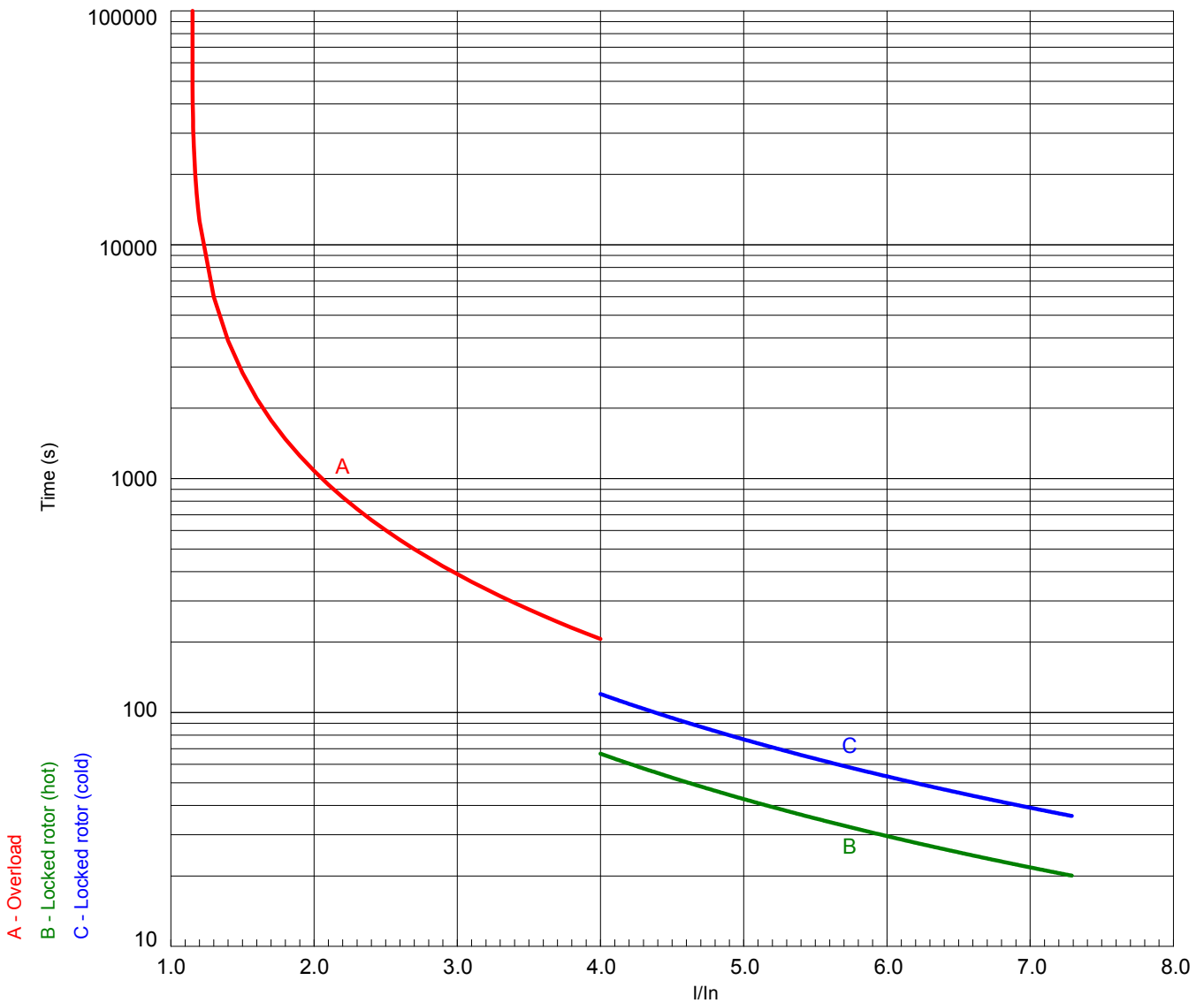
# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer : \_\_\_\_\_

Product line : W50Xec Increased Safety - Voltage Class AT - 5.1kV to 6.6kV



Performance : 270 kW (365 HP) 6600 V 50 Hz 2P W50 355J/H

|                     |            |                       |                         |
|---------------------|------------|-----------------------|-------------------------|
| Rated current       | : 28.0 A   | Moment of inertia (J) | : 5.86 kgm <sup>2</sup> |
| LRC (p.u.)          | : 7.3      | Duty cycle            | : S1                    |
| Rated torque        | : 868 Nm   | Insulation class      | : F                     |
| Locked rotor torque | : 120 %    | Service factor        | : 1.00                  |
| Breakdown torque    | : 245 %    | Temperature rise      | : 80 K                  |
| Rated speed         | : 2970 rpm |                       |                         |

Heating constant : 52.3 min  
Cooling constant : 156.9 min

**FOR APPROVAL**  
 Approved  
 Approved with comments  
 Not approved

| Rev.         | Summary of changes | Performed                               | Checked | Date |
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|              |                    |   |         |      |
| Performed by | e-anglesi          | 094056/2021<br>Page 1/1      Revision 0 |         |      |
| Checked by   | AUTOMATICO         |   |         |      |
| Date         | 07/04/2021         |   |         |      |

1 2 3 4 5 6 7 8

A

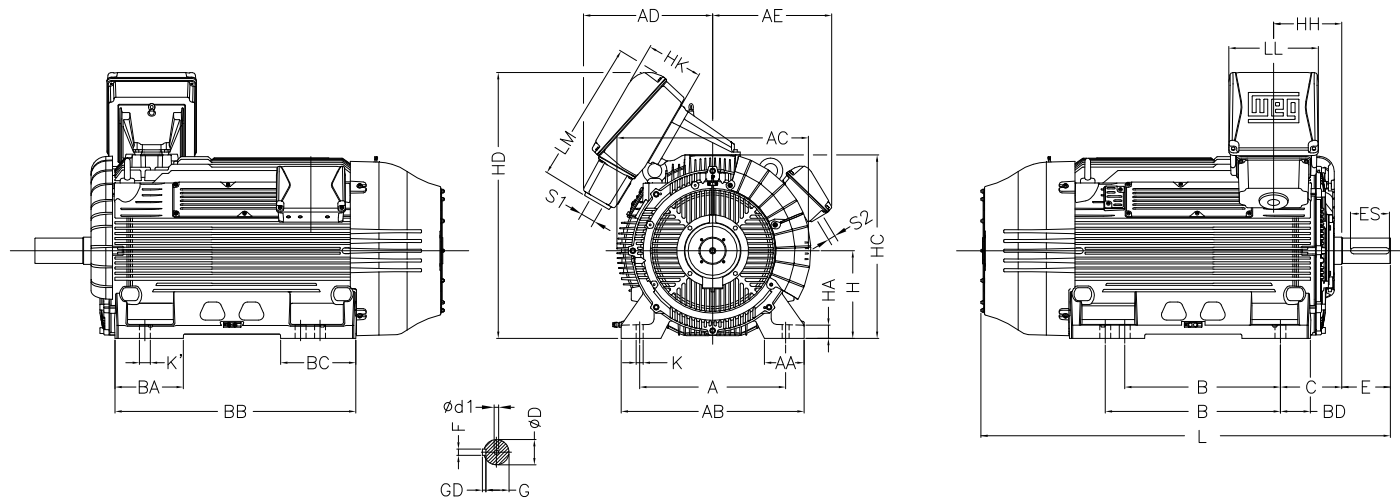
B

C

D

E

F



Notes: Preliminary

|           |               |                 |            |           |
|-----------|---------------|-----------------|------------|-----------|
| A<br>610  | AA<br>150     | AB<br>750       | AC<br>790  | AD<br>663 |
| AE<br>569 | B<br>800/900  | BA<br>298       | BB<br>1082 | BC<br>298 |
| BD<br>91  | C<br>254      | D<br>65         | d1<br>DM20 | E<br>140  |
| ES<br>125 | F<br>18       | G<br>58         | GD<br>11   | H<br>355  |
| HA<br>50  | HC<br>750     | HD<br>1173      | HH<br>349  | K<br>28   |
| L<br>1825 | S1<br>M63x1,5 | S2<br>3xM20x1,5 | LL<br>460  | LM<br>730 |
| HK<br>290 |               |                 |            |           |

Performed by:

Checked:

Customer:

W50 - High Voltage

Three-phase induction motor  
Frame 355J/H - IP55

07-APR-2021



## Plano Pintura / *Painting Plan 214P*

### 1. CONDIÇÕES AMBIENTAIS/ *ENVIRONMENTAL CONDITIONS*

- a. Categoria de corrosividade atmosférica: C5 (I & M) (ISO 12944)  
*Atmospheric-corrosivity category:*
- b. Resistência ao nevoeiro salino: Mínimo 1440 horas (ISO 9227/ ISO 12944)  
*Resistance to Neutral Salt Spray: Minimum 1440 hours (ISO 9227/ ISO 12944)*
- c. Uso recomendado: Ambiente industrial e marinho, abrigado ou desabrigado, com alta contaminação de agentes corrosivos SO<sub>2</sub> (Dióxido de enxofre) e Cl<sup>-</sup> (Cloroeto), que podem conter vapores ácidos, álcalis e solventes, sólidos contaminantes e elevada humidade.  
*Recommended use: Industrial and marine environment, sheltered or unsheltered, with high contamination of corrosive agents SO<sub>2</sub> (Sulphur Dioxide) and Cl<sup>-</sup> (Chloride), which may contain acid vapors, alkalis and solid contaminating solvents and high humidity.*
- d. Durabilidade\*: > 15 anos  
*Durability\*:* > 15 years

\*O intervalo de durabilidade não é uma "garantia de tempo" (ISO 12944-1).

Um tempo de garantia é uma consideração que é o assunto legal das cláusulas na parte administrativa do contrato. O tempo de garantia geralmente é menor do que o intervalo de durabilidade. Não há regras que liguem os dois períodos de tempo.

*\*The durability range is not a "time guarantee" (ISO 12944-1).*

*A guarantee time is a consideration that is the legal subject of clauses in the administrative part of the contract. The guarantee time is usually shorter than the durability range. There are no rules that link the two periods of time.*

### 2. PREPARAÇÃO DE SUPERFÍCIE/ *SURFACE PREPARATION*

- a. Substrato: Aço carbono, ferro fundido  
*Substratum: Carbon steel, cast iron*
- b. Método: Decapagem por jato abrasivo  
*Method: Abrasive blasting*
- c. Limpeza da superfície: SA 2 ½ Near White de acordo com a norma ISO 8501-1  
*Surface Cleanliness: SA 2 ½ Near White according to ISO 8501-1 standard*
- d. Rugosidade da superfície: Apropriada para garantir o perfil de superfície recomendado pelo fabricante da tinta e especificações do plano de pintura. Entre 1/4 e 1/3 da espessura total do esquema a ser aplicado.  
*Surface Roughness: Appropriate to guarantee the surface profile recommended by paint manufacturer and painting plan specifications. Between 1/4 and 1/3 of the total thickness of the scheme to be applied.*

### 3. APLICAÇÃO DE PINTURA - REVESTIMENTO/ PAINT APPLICATION - COATING

- a. Método:  
*Method:* Pistola convencional  
*Conventional air spray*
- b. Condições e limpeza da superfície:  
*Conditions and surface cleanliness:* De acordo com as recomendações do fabricante de tinta e referidas na Folha de Dados do Produto.  
*According to paint manufacturer recommendations and referred in the Product Datasheet*
- c. Esquema de pintura:  
*Coating system:* De acordo com a Tabela 1 da página 3.  
*According to the Table 1 of page 3.*
- d. Controlo de qualidade:  
*Quality control:* De acordo com a norma ISO 12944.  
*According to ISO 12944 standard.*

| <b>Versão</b><br><i>Version</i> | <b>Data</b><br><i>Date</i> | <b>Elaborador</b><br><i>Elabored</i> | <b>Verificado</b><br><i>Verified</i> | <b>Modificação</b><br><i>Modification</i> |
|---------------------------------|----------------------------|--------------------------------------|--------------------------------------|---|
| 00                              | 06/08/2018                 | pmiguel                              | chamusca                             | Emissão inicial                           |
|                                 |                            |                                      |                                      |   |



**TABELA 1 (TABLE 1) - PLANO PINTURA / PAINTING PLAN WEGeuro 214P**

| USO RECOMENDADO/<br>RECOMMENDED USE   | PERFIL<br>SUPERFICIE/<br>SURFACE<br>PREPARATIO<br>N GRADE | PRIMÁRIO/ PRIMER                         |   | ACABAMENTO/ FINISH COAT                             |   |   | ESPESSURA<br>TOTAL SECA /<br>TOTAL DRY<br>FILM<br>THICKNESS<br>(µm) |
|---|---|--|---|---|---|---|---|
|   |   | PRODUTO/<br>PAINT                        | ESPESSURA<br>SECA /<br>DRY FILM<br>THICKNESS (µm) | PRODUTO/<br>PAINT                                   | COR /<br>COLOR  | ESPESSURA<br>SECA /<br>DRY FILM<br>THICKNESS (µm) |   |
| Para ambiente industrial e marinho, abrigado ou desabrigado, com alta contaminação de agentes corrosivos SO <sub>2</sub> (dióxido de enxofre) e Cl <sup>-</sup> (cloro), que podem conter vapores ácidos, álcalis e solventes sólidos, contaminantes e alta humidade.<br><i>For industrial and marine environment, sheltered or unsheltered, with high contamination of corrosive agents SO<sub>2</sub> (Sulphur dioxide) and Cl<sup>-</sup> (chloride), which may contain acid vapors, alkalis and solid contaminating solvents and high humidity.</i> | Sa 2 ½  | Epoxi rico em zinco / Epoxy rich in zinc | 70 - 100  | Poliuretano bicomponente / Bicomponent Polyurethane | RAL ou Munsell, de acordo com especificação do cliente / RAL or Munsell, according to customer definition | 70 - 100  | 140 - 200   |

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**WEGeuro – Indústria Eléctrica, S.A.**  
Rua Engenheiro Frederico Ulrich, Zona Industrial Maia - Sector V  
4470-605 Maia  
Apartado 6074. 4471-908 Maia  
Phone: +351 229 477 700

[www.weg.net/pt](http://www.weg.net/pt)