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designated according to Article 29 of the Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment, www.eota.eu)

European Technical Assessment **ETA 15/0408**
of 2nd September 2016

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: **UL International (UK) Ltd**

| | |
|---|---|
| Trade name of the construction product | FireMaster® Blanket Structural Steel PFP |
| Product family to which the construction product belongs | Fire Protective Product for Steel Elements |
| Manufacturer | Morgan Advanced Materials Thermal Ceramics Tebay Road Bromborough Wirral CH62 3PH http://www.morganadvancedmaterials.com |
| Manufacturing plant(s) | Morgan Advanced Materials Thermal Ceramics Tebay Road Bromborough Wirral CH62 3PH http://www |
| This European Technical Assessment contains | 24 pages including 1 Annex which forms an integral part of this assessment. |
| This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of | ETAG 018-4, edition 2011, used as a European Assessment Document (EAD). |

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

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I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical Description of the Product

FireMaster® Blanket Structural Steel PFP is a ceramic blanket system designed for the fire protection of structural steel elements.

In accordance with ETAG 018-4, FireMaster® Blanket Structural Steel PFP may be considered as a fire protective kit that that comprises the blanket and fasteners consisting of steel pins and washers.

The blanket is supplied in rolls nominally 610mm wide with a nominal density of 96kgs/m³ and a range of nominal thickness from 25mm to 60mm but can be supplied in other thicknesses as listed in the performance tables should this be required.

According to the manufacturer’s declaration, FireMaster® Blanket Structural Steel PFP does not contain any hazardous substances and is exonerated from carcinogenic classification.

2 Specification of the Intended Uses of the Product In Accordance With The Applicable European Assessment Document (Hereinafter EAD): ETAG 018-4

The intended use of FireMaster® Blanket Structural Steel PFP is use category Type 4 as defined in ETAG 018-4 (loadbearing steel elements).

FireMaster® Blanket Structural Steel PFP is to fire protect various sizes of structural steel 'H' or 'I' section beams and columns and hollow columns for up to a fire resistance classification of R180 and for design temperatures in the range of 150°C to 700°C. The protection can be installed in a single layer or in two layers and the steel substrate requires no surface treatment.

The provisions made in this European Technical Assessment are based on an assumed working life of FireMaster® Blanket Structural Steel PFP of 25 years, provided that the conditions laid down in the manufacturer’s datasheet and instructions for the packaging/transport/storage/installation/ use/repair are met.

FireMaster® Blanket Structural Steel PFP has been assessed for use internal conditions defined in ETAG 018-4 for Type Z₂ environmental conditions (internal only).

3 Performance of the Product and References to the Methods Used for its Assessment

| Product: Fire Protective Material | | Intended use: Fire Protection of Structural Steel Elements | |
|--|--------------------|--|--|
| Basic requirement for construction work | Basic Requirement | Performance | |
| BWR 1 Mechanical resistance and stability | | | |
| - | None | Not relevant | |
| BWR 2 Safety in case of fire | | | |
| EN 13501-1 | Reaction to fire | Mat: Class A1 Fastener: Class A1 | |
| EN 13501-2 | Resistance to fire | Annex A | |
| BWR 3 Hygiene, health and environment | | | |

| | | | | | | | | | | | | | | |
|--|---|---|--|---|---------|-------|--|--|-------|------|-------------------------------------|---|------|-------|
| EN 12467 | Water permeability | No performance declared | | | | | | | | | | | | |
| ETAG 018-4 | Air permeability | Not relevant | | | | | | | | | | | | |
| Declaration of manufacturer | Release of dangerous substances | Declaration of manufacturer. | | | | | | | | | | | | |
| BWR 4 Safety in use | | | | | | | | | | | | | | |
| ETAG 018-4 | Flexural strength | Not Relevant | | | | | | | | | | | | |
| EN 1604 | Dimensional stability | Length minus 2.16% Width minus 2.45% Thickness plus 0.86% | | | | | | | | | | | | |
| BWR 5 Protection against noise | | | | | | | | | | | | | | |
| EN 354 | Sound Absorption | Class A | | | | | | | | | | | | |
| BWR 6 Energy economy and heat retention | | | | | | | | | | | | | | |
| EN 12667 | Thermal resistance | Nominal 0.032 W/mK at 10°C. | | | | | | | | | | | | |
| EN 12086 | Water vapour transmission | <table border="1"> <tr> <td>Water Vapour Transmission Rate, g (mg/h.m²)</td> <td>Water Vapour Permeance, W (mg/h.m².Pa)</td> </tr> <tr> <td>16958.5</td> <td>14.05</td> </tr> <tr> <td>Water Vapour Resistance, Z (h.m².Pa/mg)</td> <td>Water Vapour Permeability, δ (mg/h.n/Pa)</td> </tr> <tr> <td>0.071</td> <td>0.43</td> </tr> <tr> <td>Water Diffusion Resistance Factor μ</td> <td>Water Vapour Diffusion Equivalent Air Layer thickness, s_d (m)</td> </tr> <tr> <td>1.66</td> <td>0.051</td> </tr> </table> | Water Vapour Transmission Rate, g (mg/h.m ²) | Water Vapour Permeance, W (mg/h.m ² .Pa) | 16958.5 | 14.05 | Water Vapour Resistance, Z (h.m ² .Pa/mg) | Water Vapour Permeability, δ (mg/h.n/Pa) | 0.071 | 0.43 | Water Diffusion Resistance Factor μ | Water Vapour Diffusion Equivalent Air Layer thickness, s _d (m) | 1.66 | 0.051 |
| Water Vapour Transmission Rate, g (mg/h.m ²) | Water Vapour Permeance, W (mg/h.m ² .Pa) | | | | | | | | | | | | | |
| 16958.5 | 14.05 | | | | | | | | | | | | | |
| Water Vapour Resistance, Z (h.m ² .Pa/mg) | Water Vapour Permeability, δ (mg/h.n/Pa) | | | | | | | | | | | | | |
| 0.071 | 0.43 | | | | | | | | | | | | | |
| Water Diffusion Resistance Factor μ | Water Vapour Diffusion Equivalent Air Layer thickness, s _d (m) | | | | | | | | | | | | | |
| 1.66 | 0.051 | | | | | | | | | | | | | |
| General aspects relating to product performance | | | | | | | | | | | | | | |
| ETAG 018-4 | Durability and serviceability | Durability (internal only) | | | | | | | | | | | | |
| ETAG 018-4 | Identification | Information retained by Technical Assessment Body | | | | | | | | | | | | |
| BWR 7 Sustainable use of natural resources | | | | | | | | | | | | | | |
| - | - | No performance determined | | | | | | | | | | | | |

4 Assessment and Verification of Constancy of Performance (Hereinafter AVCP) System Applied, With Reference to its Legal Base

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, see <http://eur-lex.europa.eu/oj/direct-access.html> of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

| Product | Intended use | Levels or Classes | System |
|-------------------------|-----------------------------------|-------------------|--------|
| Fire protective product | Fire protection of steel elements | Any | 1 |

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Tasks for the manufacturer:

Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European Technical Assessment.

The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this European Technical Assessment.

The factory production control shall be in accordance with the Control Plan relating to this European Technical Assessment.

The Control Plan is laid down in the context of the factory production control system operated by the manufacturer and deposited at UL International (UK) Ltd.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

Other tasks for the manufacturer

No additional tasks

6 Issued on:

2nd September 2016

Report by:



P. W. Crewe
Senior Staff Engineer
Buildings and Life Safety Technology Division

Reviewed by:



S G Baker
Staff Engineer
Buildings and Life Safety Technology Division

For and on behalf of UL International (UK) Ltd.

ANNEX A – Resistance to Fire Performance

1. This Annex relates to the use of FireMaster® Blanket Structural Steel PFP for the fire protection of 'H' or 'I' shaped beams and columns and hollow columns (rectangular and circular).
2. The precise scope is given in Tables 1 to 18 which show the thickness of FireMaster® Blanket Structural Steel PFP required to provide classifications of R30 to R180 for various design temperatures and section factors.
3. The product is assessed on the basis of:
 - i. Type approval testing in accordance with the principles of EN 13381-4: 2013.
 - ii. A design appraisal adopting the numerical regression analysis defined in Annex E.5 of EN 13381-4: 2013.
4. The data presented in the tables in this Annex refers to both beams (three-sided fire exposure) and columns (four sided or all round exposure).
5. The data for the 'H' and 'I' shaped beams and columns applies also to other shaped steel sections that have re-entrant details such as channels, angles and tees.

A.1 Single Layer Systems

| FireMaster® Balanket Stuctural Steel PFP (Single Layer) | | | | | | | | | | | | |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 1: I or H Section Beams and Columns: Fire Resistance Period: 30 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 80 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 85 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 90 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 95 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 100 | 27 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 105 | 28 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 110 | 29 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 115 | 30 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 120 | 31 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 125 | 31 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 130 | 32 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 135 | 33 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 140 | 34 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 145 | 35 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 150 | 35 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 155 | 36 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 160 | 37 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 165 | 37 | 27 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 170 | 38 | 27 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 175 | 39 | 28 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 180 | 39 | 28 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 185 | 40 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 190 | 41 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 195 | 41 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 200 | 42 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 205 | 42 | 31 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 210 | 43 | 31 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 215 | 43 | 32 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 220 | 44 | 32 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 225 | 45 | 33 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 230 | 45 | 33 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 235 | 46 | 33 | 24 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 240 | 46 | 34 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 245 | 47 | 34 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 250 | 47 | 35 | 25 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 255 | 47 | 35 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 260 | 48 | 35 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 265 | 48 | 36 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 270 | 49 | 36 | 26 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 275 | 49 | 36 | 27 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 280 | 50 | 37 | 27 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 285 | 50 | 37 | 27 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 290 | 51 | 37 | 28 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 295 | 51 | 38 | 28 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 300 | 51 | 38 | 28 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 305 | 52 | 38 | 28 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 310 | 52 | 39 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 315 | - | 39 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 320 | - | 39 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 325 | - | 40 | 29 | 21 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 330 | - | 40 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 335 | - | 40 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 340 | - | 41 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 345 | - | 41 | 30 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 350 | - | 41 | 31 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 355 | - | 41 | 31 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 360 | - | 42 | 31 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |

| FireMaster® Balanket Structural Steel PFP (Single Layer) | | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 2: I or H Section Beams and Columns: Fire Resistance Period: 60 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | 52 | 39 | 31 | 25 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 80 | - | 41 | 32 | 26 | 22 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 85 | - | 4 | 34 | 27 | 23 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 90 | - | 45 | 36 | 29 | 24 | 20 | 19 | 19 | 19 | 19 | 19 | 19 |
| 95 | - | 47 | 37 | 30 | 25 | 21 | 19 | 19 | 19 | 19 | 19 | 19 |
| 100 | - | 48 | 38 | 31 | 26 | 21 | 19 | 19 | 19 | 19 | 19 | 19 |
| 105 | - | 51 | 40 | 33 | 27 | 22 | 19 | 19 | 19 | 19 | 19 | 19 |
| 110 | - | - | 41 | 34 | 28 | 23 | 19 | 19 | 19 | 19 | 19 | 19 |
| 115 | - | - | 43 | 35 | 29 | 24 | 20 | 19 | 19 | 19 | 19 | 19 |
| 120 | - | - | 44 | 36 | 30 | 25 | 21 | 19 | 19 | 19 | 19 | 19 |
| 125 | - | - | 46 | 38 | 31 | 26 | 22 | 19 | 19 | 19 | 19 | 19 |
| 130 | - | - | 47 | 39 | 32 | 26 | 22 | 19 | 19 | 19 | 19 | 19 |
| 135 | - | - | 48 | 41 | 33 | 27 | 23 | 19 | 19 | 19 | 19 | 19 |
| 140 | - | - | 50 | 42 | 34 | 28 | 24 | 20 | 19 | 19 | 19 | 19 |
| 145 | - | - | 51 | 43 | 34 | 29 | 24 | 20 | 19 | 19 | 19 | 19 |
| 150 | - | - | 52 | 44 | 35 | 29 | 25 | 21 | 19 | 19 | 19 | 19 |
| 155 | - | - | - | 45 | 36 | 30 | 25 | 21 | 19 | 19 | 19 | 19 |
| 160 | - | - | - | 46 | 37 | 31 | 26 | 22 | 19 | 19 | 19 | 19 |
| 165 | - | - | - | 47 | 38 | 32 | 27 | 22 | 19 | 19 | 19 | 19 |
| 170 | - | - | - | 48 | 39 | 32 | 27 | 23 | 19 | 19 | 19 | 19 |
| 175 | - | - | - | 49 | 40 | 33 | 28 | 23 | 19 | 19 | 19 | 19 |
| 180 | - | - | - | 50 | 40 | 34 | 28 | 24 | 20 | 19 | 19 | 19 |
| 185 | - | - | - | 50 | 41 | 34 | 29 | 24 | 20 | 19 | 19 | 19 |
| 190 | - | - | - | 51 | 42 | 35 | 30 | 25 | 21 | 19 | 19 | 19 |
| 195 | - | - | - | 52 | 43 | 36 | 30 | 25 | 21 | 19 | 19 | 19 |
| 200 | - | - | - | - | 44 | 36 | 31 | 26 | 21 | 19 | 19 | 19 |
| 205 | - | - | - | - | 44 | 37 | 31 | 26 | 22 | 19 | 19 | 19 |
| 210 | - | - | - | - | 45 | 38 | 32 | 27 | 22 | 19 | 19 | 19 |
| 215 | - | - | - | - | 46 | 38 | 32 | 27 | 22 | 19 | 19 | 19 |
| 220 | - | - | - | - | 47 | 39 | 33 | 28 | 23 | 19 | 19 | 19 |
| 225 | - | - | - | - | 48 | 40 | 33 | 28 | 23 | 19 | 19 | 19 |
| 230 | - | - | - | - | 48 | 40 | 34 | 28 | 24 | 19 | 19 | 19 |
| 235 | - | - | - | - | 49 | 41 | 34 | 29 | 24 | 19 | 19 | 19 |
| 240 | - | - | - | - | 50 | 41 | 35 | 29 | 24 | 20 | 19 | 19 |
| 245 | - | - | - | - | 50 | 42 | 35 | 30 | 25 | 20 | 19 | 19 |
| 250 | - | - | - | - | 51 | 43 | 36 | 30 | 25 | 20 | 19 | 19 |
| 255 | - | - | - | - | 52 | 43 | 36 | 30 | 25 | 21 | 19 | 19 |
| 260 | - | - | - | - | 52 | 44 | 37 | 31 | 26 | 21 | 19 | 19 |
| 265 | - | - | - | - | - | 44 | 37 | 31 | 26 | 21 | 19 | 19 |
| 270 | - | - | - | - | - | 45 | 38 | 32 | 26 | 22 | 19 | 19 |
| 275 | - | - | - | - | - | 46 | 38 | 32 | 27 | 22 | 19 | 19 |
| 280 | - | - | - | - | - | 46 | 39 | 32 | 27 | 22 | 19 | 19 |
| 285 | - | - | - | - | - | 47 | 39 | 33 | 27 | 23 | 19 | 19 |
| 290 | - | - | - | - | - | 47 | 40 | 33 | 28 | 23 | 19 | 19 |
| 295 | - | - | - | - | - | 48 | 40 | 34 | 28 | 23 | 19 | 19 |
| 300 | - | - | - | - | - | 48 | 41 | 34 | 28 | 23 | 19 | 19 |
| 305 | - | - | - | - | - | 49 | 41 | 34 | 28 | 24 | 19 | 19 |
| 310 | - | - | - | - | - | 49 | 41 | 35 | 29 | 24 | 19 | 19 |
| 315 | - | - | - | - | - | 49 | 42 | 35 | 29 | 24 | 19 | 19 |
| 320 | - | - | - | - | - | 50 | 42 | 35 | 29 | 25 | 19 | 19 |
| 325 | - | - | - | - | - | 50 | 43 | 36 | 30 | 25 | 19 | 19 |
| 330 | - | - | - | - | - | 51 | 43 | 36 | 30 | 25 | 19 | 19 |
| 335 | - | - | - | - | - | 52 | 44 | 36 | 30 | 25 | 19 | 19 |
| 340 | - | - | - | - | - | 52 | 44 | 37 | 30 | 26 | 19 | 19 |
| 345 | - | - | - | - | - | - | 44 | 37 | 31 | 26 | 20 | 19 |
| 350 | - | - | - | - | - | - | 45 | 37 | 31 | 26 | 20 | 19 |
| 355 | - | - | - | - | - | - | 45 | 38 | 31 | 26 | 20 | 19 |
| 360 | - | - | - | - | - | - | 46 | 38 | 32 | 27 | 20 | 19 |

| FireMaster® Balanket Structural Steel PFP (Single Layer) | | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 3: I or H Section Beams and Columns: Fire Resistance Period: 90 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | - | - | 50 | 42 | 35 | 30 | 28 | 22 | 19 | 19 | 19 | 19 |
| 80 | - | - | - | 44 | 37 | 31 | 27 | 24 | 20 | 19 | 19 | 19 |
| 85 | - | - | - | 46 | 37 | 33 | 29 | 25 | 21 | 19 | 19 | 19 |
| 90 | - | - | - | 48 | 41 | 35 | 30 | 26 | 23 | 20 | 19 | 19 |
| 95 | - | - | - | 50 | 42 | 36 | 31 | 27 | 24 | 20 | 19 | 19 |
| 100 | - | - | - | - | 44 | 38 | 33 | 28 | 25 | 21 | 19 | 19 |
| 105 | - | - | - | - | 46 | 39 | 34 | 29 | 25 | 22 | 19 | 19 |
| 110 | - | - | - | - | 48 | 41 | 34 | 31 | 26 | 23 | 20 | 19 |
| 115 | - | - | - | - | 50 | 42 | 37 | 32 | 27 | 24 | 20 | 19 |
| 120 | - | - | - | - | 51 | 44 | 38 | 33 | 28 | 25 | 21 | 19 |
| 125 | - | - | - | - | - | 45 | 39 | 34 | 29 | 26 | 22 | 19 |
| 130 | - | - | - | - | - | 47 | 40 | 35 | 30 | 27 | 23 | 19 |
| 135 | - | - | - | - | - | 48 | 42 | 36 | 31 | 28 | 23 | 19 |
| 140 | - | - | - | - | - | 50 | 43 | 37 | 32 | 29 | 24 | 20 |
| 145 | - | - | - | - | - | 51 | 44 | 38 | 33 | 29 | 25 | 21 |
| 150 | - | - | - | - | - | 52 | 45 | 39 | 34 | 30 | 26 | 21 |
| 155 | - | - | - | - | - | - | 46 | 40 | 35 | 31 | 26 | 22 |
| 160 | - | - | - | - | - | - | 48 | 41 | 36 | 32 | 27 | 22 |
| 165 | - | - | - | - | - | - | 48 | 42 | 36 | 33 | 28 | 23 |
| 170 | - | - | - | - | - | - | 50 | 43 | 37 | 34 | 28 | 24 |
| 175 | - | - | - | - | - | - | 51 | 44 | 38 | 34 | 29 | 24 |
| 180 | - | - | - | - | - | - | 52 | 45 | 39 | 35 | 30 | 25 |
| 185 | - | - | - | - | - | - | - | 46 | 40 | 36 | 31 | 25 |
| 190 | - | - | - | - | - | - | - | 47 | 40 | 37 | 31 | 26 |
| 195 | - | - | - | - | - | - | - | 48 | 41 | 38 | 32 | 26 |
| 200 | - | - | - | - | - | - | - | 49 | 42 | 38 | 33 | 27 |
| 205 | - | - | - | - | - | - | - | 50 | 43 | 39 | 33 | 27 |
| 210 | - | - | - | - | - | - | - | 50 | 44 | 40 | 34 | 28 |
| 215 | - | - | - | - | - | - | - | 51 | 44 | 41 | 34 | 29 |
| 220 | - | - | - | - | - | - | - | 52 | 45 | 41 | 35 | 29 |
| 225 | - | - | - | - | - | - | - | - | 46 | 42 | 36 | 30 |
| 230 | - | - | - | - | - | - | - | - | 46 | 43 | 36 | 30 |
| 235 | - | - | - | - | - | - | - | - | 47 | 44 | 37 | 31 |
| 240 | - | - | - | - | - | - | - | - | 48 | 44 | 38 | 31 |
| 245 | - | - | - | - | - | - | - | - | 49 | 45 | 38 | 32 |
| 250 | - | - | - | - | - | - | - | - | 49 | 46 | 39 | 32 |
| 255 | - | - | - | - | - | - | - | - | 50 | 46 | 39 | 33 |
| 260 | - | - | - | - | - | - | - | - | 51 | 47 | 40 | 33 |
| 265 | - | - | - | - | - | - | - | - | 51 | 48 | 41 | 34 |
| 270 | - | - | - | - | - | - | - | - | 52 | 49 | 41 | 34 |
| 275 | - | - | - | - | - | - | - | - | - | 49 | 42 | 35 |
| 280 | - | - | - | - | - | - | - | - | - | 50 | 42 | 35 |
| 285 | - | - | - | - | - | - | - | - | - | 51 | 43 | 36 |
| 290 | - | - | - | - | - | - | - | - | - | 51 | 44 | 36 |
| 295 | - | - | - | - | - | - | - | - | - | 52 | 44 | 37 |
| 300 | - | - | - | - | - | - | - | - | - | - | 45 | 37 |
| 305 | - | - | - | - | - | - | - | - | - | - | 45 | 37 |
| 310 | - | - | - | - | - | - | - | - | - | - | 46 | 38 |
| 315 | - | - | - | - | - | - | - | - | - | - | 46 | 38 |
| 320 | - | - | - | - | - | - | - | - | - | - | 47 | 39 |
| 325 | - | - | - | - | - | - | - | - | - | - | 47 | 39 |
| 330 | - | - | - | - | - | - | - | - | - | - | 48 | 40 |
| 335 | - | - | - | - | - | - | - | - | - | - | 49 | 40 |
| 340 | - | - | - | - | - | - | - | - | - | - | 49 | 41 |
| 345 | - | - | - | - | - | - | - | - | - | - | 50 | 41 |
| 350 | - | - | - | - | - | - | - | - | - | - | 50 | 42 |
| 355 | - | - | - | - | - | - | - | - | - | - | 51 | 42 |
| 360 | - | - | - | - | - | - | - | - | - | - | 51 | 42 |

FireMaster® Balanket Structural Steel PFP (Single Layer)

| Section Factor up to m ⁻¹ | Table 4: I or H Section Beams and Columns: Fire Resistance Period: 120 Minutes | | | | | | | | | | | |
|--------------------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | - | - | - | - | 49 | 42 | 37 | 32 | 28 | 26 | 22 | 19 |
| 80 | - | - | - | - | 52 | 45 | 39 | 34 | 30 | 27 | 24 | 20 |
| 85 | - | - | - | - | - | 47 | 41 | 36 | 32 | 29 | 25 | 21 |
| 90 | - | - | - | - | - | 50 | 43 | 38 | 33 | 30 | 26 | 23 |
| 95 | - | - | - | - | - | 52 | 45 | 40 | 35 | 32 | 27 | 24 |
| 100 | - | - | - | - | - | - | 47 | 41 | 36 | 33 | 29 | 25 |
| 105 | - | - | - | - | - | - | 49 | 43 | 38 | 35 | 30 | 26 |
| 110 | - | - | - | - | - | - | 51 | 45 | 39 | 36 | 31 | 27 |
| 115 | - | - | - | - | - | - | - | 46 | 41 | 37 | 32 | 28 |
| 120 | - | - | - | - | - | - | - | 48 | 42 | 39 | 34 | 29 |
| 125 | - | - | - | - | - | - | - | 50 | 43 | 40 | 35 | 30 |
| 130 | - | - | - | - | - | - | - | 51 | 45 | 42 | 36 | 31 |
| 135 | - | - | - | - | - | - | - | - | 46 | 43 | 37 | 32 |
| 140 | - | - | - | - | - | - | - | - | 48 | 44 | 39 | 33 |
| 145 | - | - | - | - | - | - | - | - | 49 | 46 | 40 | 34 |
| 150 | - | - | - | - | - | - | - | - | 50 | 47 | 41 | 35 |
| 155 | - | - | - | - | - | - | - | - | 52 | 48 | 42 | 36 |
| 160 | - | - | - | - | - | - | - | - | - | 50 | 43 | 37 |
| 165 | - | - | - | - | - | - | - | - | - | 51 | 44 | 38 |
| 170 | - | - | - | - | - | - | - | - | - | 52 | 45 | 39 |
| 175 | - | - | - | - | - | - | - | - | - | - | 47 | 40 |
| 180 | - | - | - | - | - | - | - | - | - | - | 48 | 41 |
| 185 | - | - | - | - | - | - | - | - | - | - | 49 | 42 |
| 190 | - | - | - | - | - | - | - | - | - | - | 50 | 43 |
| 195 | - | - | - | - | - | - | - | - | - | - | 51 | 44 |
| 200 | - | - | - | - | - | - | - | - | - | - | 52 | 45 |
| 205 | - | - | - | - | - | - | - | - | - | - | - | 46 |
| 210 | - | - | - | - | - | - | - | - | - | - | - | 47 |
| 215 | - | - | - | - | - | - | - | - | - | - | - | 47 |
| 220 | - | - | - | - | - | - | - | - | - | - | - | 48 |
| 225 | - | - | - | - | - | - | - | - | - | - | - | 49 |
| 230 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 235 | - | - | - | - | - | - | - | - | - | - | - | 51 |
| 240 | - | - | - | - | - | - | - | - | - | - | - | 52 |

| FireMaster® Balanket Stuctural Steel PFP (Single Layer) | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 5: Rectangular and Circular Hollow Columns: Fire Resistance Period: 30 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | 24 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 80 | 25 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 85 | 26 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 90 | 27 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 95 | 28 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 100 | 30 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 105 | 31 | 22 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 110 | 32 | 22 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 115 | 33 | 23 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 120 | 35 | 25 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 125 | 35 | 25 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 130 | 36 | 26 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 135 | 37 | 26 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 140 | 39 | 27 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 145 | 40 | 29 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 150 | 40 | 29 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 155 | 42 | 30 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 160 | 43 | 30 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 165 | 43 | 31 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 170 | 44 | 32 | 23 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 175 | 46 | 33 | 24 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 180 | 46 | 33 | 25 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 185 | 47 | 34 | 25 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 190 | 49 | 35 | 25 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 195 | 49 | 36 | 26 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 200 | 50 | 36 | 26 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 205 | 51 | 37 | 27 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 210 | 52 | 38 | 28 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 215 | 52 | 39 | 28 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 220 | - | 39 | 28 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 225 | - | 40 | 29 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 230 | - | 41 | 30 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 235 | - | 41 | 30 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 240 | - | 42 | 31 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 245 | - | 42 | 31 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 250 | - | 44 | 31 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 255 | - | 44 | 33 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 260 | - | 44 | 33 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 265 | - | 45 | 33 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 270 | - | 45 | 33 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 275 | - | 45 | 34 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 280 | - | 46 | 34 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 285 | - | 46 | 34 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 290 | - | 46 | 35 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 295 | - | 48 | 35 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 300 | - | 48 | 35 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 305 | - | 48 | 35 | 26 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 310 | - | 49 | 36 | 26 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 315 | - | 49 | 36 | 26 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 320 | - | 49 | 36 | 26 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 325 | - | 50 | 36 | 26 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 330 | - | 50 | 38 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 335 | - | 50 | 38 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 340 | - | 51 | 38 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 345 | - | 51 | 38 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 350 | - | 51 | 39 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 355 | - | 51 | 39 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 360 | - | - | 39 | 29 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |

| FireMaster® Balanket Stuctural Steel PFP (Single Layer) | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ¹ | Table 6: Rectangular and Circular Hollow Columns: Fire Resistance Period: 60 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | - | 42 | 33 | 27 | 22 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 80 | - | 44 | 35 | 28 | 24 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 85 | - | 4 | 37 | 29 | 25 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 90 | - | 49 | 39 | 32 | 26 | 22 | 21 | 21 | 21 | 21 | 21 | 21 |
| 95 | - | 51 | 41 | 33 | 27 | 23 | 21 | 21 | 21 | 21 | 21 | 21 |
| 100 | - | - | 42 | 34 | 29 | 23 | 21 | 21 | 21 | 21 | 21 | 21 |
| 105 | - | - | 44 | 36 | 30 | 24 | 21 | 21 | 21 | 21 | 21 | 21 |
| 110 | - | - | 46 | 38 | 31 | 26 | 21 | 21 | 21 | 21 | 21 | 21 |
| 115 | - | - | 48 | 39 | 32 | 27 | 22 | 21 | 21 | 21 | 21 | 21 |
| 120 | - | - | 49 | 40 | 34 | 28 | 24 | 21 | 21 | 21 | 21 | 21 |
| 125 | - | - | 52 | 43 | 35 | 29 | 25 | 21 | 21 | 21 | 21 | 21 |
| 130 | - | - | - | 44 | 36 | 29 | 25 | 21 | 21 | 21 | 21 | 21 |
| 135 | - | - | - | 47 | 37 | 31 | 26 | 22 | 22 | 22 | 22 | 22 |
| 140 | - | - | - | 48 | 39 | 32 | 27 | 23 | 22 | 22 | 22 | 22 |
| 145 | - | - | - | 49 | 39 | 33 | 27 | 23 | 22 | 22 | 22 | 22 |
| 150 | - | - | - | 51 | 40 | 33 | 29 | 24 | 22 | 22 | 22 | 22 |
| 155 | - | - | - | 52 | 42 | 35 | 29 | 24 | 22 | 22 | 22 | 22 |
| 160 | - | - | - | - | 43 | 36 | 30 | 26 | 22 | 22 | 22 | 22 |
| 165 | - | - | - | - | 44 | 37 | 31 | 26 | 22 | 22 | 22 | 22 |
| 170 | - | - | - | - | 46 | 37 | 32 | 27 | 22 | 22 | 22 | 22 |
| 175 | - | - | - | - | 47 | 39 | 33 | 27 | 22 | 22 | 22 | 22 |
| 180 | - | - | - | - | 47 | 40 | 33 | 28 | 24 | 22 | 22 | 22 |
| 185 | - | - | - | - | 49 | 40 | 34 | 28 | 24 | 23 | 23 | 23 |
| 190 | - | - | - | - | 50 | 42 | 36 | 30 | 25 | 23 | 23 | 23 |
| 195 | - | - | - | - | 51 | 43 | 36 | 30 | 25 | 23 | 23 | 23 |
| 200 | - | - | - | - | - | 43 | 37 | 31 | 25 | 23 | 23 | 23 |
| 205 | - | - | - | - | - | 45 | 37 | 31 | 27 | 23 | 23 | 23 |
| 210 | - | - | - | - | - | 46 | 39 | 33 | 27 | 23 | 23 | 23 |
| 215 | - | - | - | - | - | 46 | 39 | 33 | 27 | 23 | 23 | 23 |
| 220 | - | - | - | - | - | 48 | 40 | 34 | 28 | 23 | 23 | 23 |
| 225 | - | - | - | - | - | 49 | 40 | 34 | 28 | 23 | 23 | 23 |
| 230 | - | - | - | - | - | 49 | 42 | 34 | 30 | 23 | 23 | 23 |
| 235 | - | - | - | - | - | 51 | 42 | 36 | 30 | 23 | 23 | 23 |
| 240 | - | - | - | - | - | 51 | 43 | 36 | 30 | 25 | 24 | 24 |
| 245 | - | - | - | - | - | 52 | 44 | 37 | 31 | 25 | 24 | 24 |
| 250 | - | - | - | - | - | - | 45 | 38 | 31 | 25 | 24 | 24 |
| 255 | - | - | - | - | - | - | 45 | 38 | 31 | 26 | 24 | 24 |
| 260 | - | - | - | - | - | - | 46 | 39 | 33 | 26 | 24 | 24 |
| 265 | - | - | - | - | - | - | 46 | 39 | 33 | 26 | 24 | 24 |
| 270 | - | - | - | - | - | - | 48 | 40 | 33 | 28 | 24 | 24 |
| 275 | - | - | - | - | - | - | 48 | 40 | 34 | 28 | 24 | 24 |
| 280 | - | - | - | - | - | - | 49 | 40 | 34 | 28 | 24 | 24 |
| 285 | - | - | - | - | - | - | 49 | 41 | 34 | 29 | 24 | 24 |
| 290 | - | - | - | - | - | - | 50 | 41 | 35 | 29 | 24 | 24 |
| 295 | - | - | - | - | - | - | 50 | 43 | 35 | 29 | 24 | 24 |
| 300 | - | - | - | - | - | - | 51 | 43 | 35 | 29 | 24 | 24 |
| 305 | - | - | - | - | - | - | 51 | 43 | 35 | 30 | 24 | 24 |
| 310 | - | - | - | - | - | - | 51 | 44 | 36 | 30 | 24 | 24 |
| 315 | - | - | - | - | - | - | - | 44 | 36 | 30 | 24 | 24 |
| 320 | - | - | - | - | - | - | - | 44 | 36 | 31 | 24 | 24 |
| 325 | - | - | - | - | - | - | - | 45 | 38 | 31 | 24 | 24 |
| 330 | - | - | - | - | - | - | - | 45 | 38 | 31 | 24 | 24 |
| 335 | - | - | - | - | - | - | - | 45 | 38 | 31 | 24 | 24 |
| 340 | - | - | - | - | - | - | - | 46 | 38 | 33 | 24 | 24 |
| 345 | - | - | - | - | - | - | - | 46 | 39 | 33 | 25 | 24 |
| 350 | - | - | - | - | - | - | - | 46 | 39 | 33 | 25 | 24 |
| 355 | - | - | - | - | - | - | - | 48 | 39 | 33 | 25 | 24 |
| 360 | - | - | - | - | - | - | - | 48 | 40 | 34 | 25 | 24 |

| FireMaster® Balanket Stuctural Steel PFP (Single Layer) | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 7: Rectangular and Circular Hollow Columns: Fire Resistance Period: 90 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | - | - | - | 45 | 38 | 32 | 30 | 24 | 20 | 20 | 20 | 20 |
| 80 | - | - | - | 48 | 40 | 33 | 29 | 26 | 22 | 21 | 21 | 21 |
| 85 | - | - | - | 50 | 40 | 36 | 31 | 27 | 23 | 21 | 21 | 21 |
| 90 | - | - | - | 52 | 45 | 38 | 33 | 28 | 25 | 22 | 21 | 21 |
| 95 | - | - | - | - | 46 | 39 | 34 | 30 | 26 | 22 | 21 | 21 |
| 100 | - | - | - | - | 48 | 42 | 36 | 31 | 28 | 23 | 21 | 21 |
| 105 | - | - | - | - | 51 | 43 | 38 | 32 | 28 | 24 | 21 | 21 |
| 110 | - | - | - | - | - | 46 | 38 | 34 | 29 | 26 | 22 | 21 |
| 115 | - | - | - | - | - | 47 | 41 | 36 | 30 | 27 | 22 | 21 |
| 120 | - | - | - | - | - | 49 | 43 | 37 | 31 | 28 | 24 | 21 |
| 125 | - | - | - | - | - | 51 | 44 | 38 | 33 | 29 | 25 | 21 |
| 130 | - | - | - | - | - | - | 45 | 40 | 34 | 31 | 26 | 21 |
| 135 | - | - | - | - | - | - | 48 | 41 | 35 | 32 | 26 | 22 |
| 140 | - | - | - | - | - | - | 49 | 42 | 36 | 33 | 27 | 23 |
| 145 | - | - | - | - | - | - | 50 | 44 | 38 | 33 | 29 | 24 |
| 150 | - | - | - | - | - | - | 52 | 45 | 39 | 35 | 30 | 24 |
| 155 | - | - | - | - | - | - | - | 46 | 40 | 36 | 30 | 25 |
| 160 | - | - | - | - | - | - | - | 48 | 42 | 37 | 31 | 26 |
| 165 | - | - | - | - | - | - | - | 49 | 42 | 38 | 33 | 27 |
| 170 | - | - | - | - | - | - | - | 50 | 43 | 40 | 33 | 28 |
| 175 | - | - | - | - | - | - | - | 52 | 45 | 40 | 34 | 28 |
| 180 | - | - | - | - | - | - | - | - | 46 | 41 | 35 | 30 |
| 185 | - | - | - | - | - | - | - | - | 47 | 43 | 37 | 30 |
| 190 | - | - | - | - | - | - | - | - | 48 | 44 | 37 | 31 |
| 195 | - | - | - | - | - | - | - | - | 49 | 45 | 38 | 31 |
| 200 | - | - | - | - | - | - | - | - | 50 | 46 | 40 | 32 |
| 205 | - | - | - | - | - | - | - | - | 52 | 47 | 40 | 33 |
| 210 | - | - | - | - | - | - | - | - | - | 48 | 41 | 34 |
| 215 | - | - | - | - | - | - | - | - | - | 50 | 41 | 35 |
| 220 | - | - | - | - | - | - | - | - | - | 50 | 43 | 35 |
| 225 | - | - | - | - | - | - | - | - | - | 51 | 44 | 37 |
| 230 | - | - | - | - | - | - | - | - | - | - | 44 | 37 |
| 235 | - | - | - | - | - | - | - | - | - | - | 46 | 38 |
| 240 | - | - | - | - | - | - | - | - | - | - | 47 | 38 |
| 245 | - | - | - | - | - | - | - | - | - | - | 47 | 40 |
| 250 | - | - | - | - | - | - | - | - | - | - | 49 | 40 |
| 255 | - | - | - | - | - | - | - | - | - | - | 49 | 41 |
| 260 | - | - | - | - | - | - | - | - | - | - | 50 | 41 |
| 265 | - | - | - | - | - | - | - | - | - | - | 51 | 43 |
| 270 | - | - | - | - | - | - | - | - | - | - | 51 | 43 |
| 275 | - | - | - | - | - | - | - | - | - | - | - | 44 |
| 280 | - | - | - | - | - | - | - | - | - | - | - | 44 |
| 285 | - | - | - | - | - | - | - | - | - | - | - | 45 |
| 290 | - | - | - | - | - | - | - | - | - | - | - | 45 |
| 295 | - | - | - | - | - | - | - | - | - | - | - | 46 |
| 300 | - | - | - | - | - | - | - | - | - | - | - | 46 |
| 305 | - | - | - | - | - | - | - | - | - | - | - | 46 |
| 310 | - | - | - | - | - | - | - | - | - | - | - | 48 |
| 315 | - | - | - | - | - | - | - | - | - | - | - | 48 |
| 320 | - | - | - | - | - | - | - | - | - | - | - | 49 |
| 325 | - | - | - | - | - | - | - | - | - | - | - | 49 |
| 330 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 335 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 340 | - | - | - | - | - | - | - | - | - | - | - | 51 |
| 345 | - | - | - | - | - | - | - | - | - | - | - | 51 |

FireMaster® Balanket Structural Steel PFP (Single Layer)

| Section Factor up to m ⁻¹ | Table 8: Rectangular and Circular Hollow Columns: Fire Resistance Period: 120 Minutes | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 75 | - | - | - | - | - | 45 | 40 | 34 | 30 | 28 | 24 | 20 |
| 80 | - | - | - | - | - | 49 | 42 | 37 | 32 | 29 | 26 | 22 |
| 85 | - | - | - | - | - | 51 | 44 | 39 | 35 | 31 | 27 | 23 |
| 90 | - | - | - | - | - | - | 47 | 41 | 36 | 33 | 28 | 25 |
| 95 | - | - | - | - | - | - | 49 | 44 | 38 | 35 | 30 | 26 |
| 100 | - | - | - | - | - | - | 52 | 45 | 40 | 36 | 32 | 28 |
| 105 | - | - | - | - | - | - | - | 48 | 42 | 39 | 33 | 29 |
| 110 | - | - | - | - | - | - | - | 50 | 43 | 40 | 34 | 30 |
| 115 | - | - | - | - | - | - | - | 51 | 46 | 41 | 36 | 31 |
| 120 | - | - | - | - | - | - | - | - | 47 | 44 | 38 | 32 |
| 125 | - | - | - | - | - | - | - | - | 48 | 45 | 39 | 34 |
| 130 | - | - | - | - | - | - | - | - | 51 | 47 | 41 | 35 |
| 135 | - | - | - | - | - | - | - | - | 52 | 49 | 42 | 36 |
| 140 | - | - | - | - | - | - | - | - | - | 50 | 44 | 38 |
| 145 | - | - | - | - | - | - | - | - | - | - | 46 | 39 |
| 150 | - | - | - | - | - | - | - | - | - | - | 47 | 40 |
| 155 | - | - | - | - | - | - | - | - | - | - | 49 | 42 |
| 160 | - | - | - | - | - | - | - | - | - | - | 50 | 43 |
| 165 | - | - | - | - | - | - | - | - | - | - | 51 | 44 |
| 170 | - | - | - | - | - | - | - | - | - | - | - | 46 |
| 175 | - | - | - | - | - | - | - | - | - | - | - | 47 |
| 180 | - | - | - | - | - | - | - | - | - | - | - | 48 |
| 185 | - | - | - | - | - | - | - | - | - | - | - | 50 |
| 190 | - | - | - | - | - | - | - | - | - | - | - | 51 |

A.2 Two Layer Systems

| FireMaster® Balanket Structural Steel PFP (Two Layers) | | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 9: I or H Section Beams and Columns: Fire Resistance Period: 30 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 75 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 80 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 85 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 90 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 95 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 100 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 105 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 110 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 115 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 120 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 125 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 130 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 135 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 140 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 145 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 150 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 155 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 160 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 165 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 170 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 175 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 180 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 185 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 190 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 195 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 200 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 205 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 210 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 215 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 220 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 225 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 230 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 235 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 240 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 245 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 250 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 255 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 260 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 265 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 270 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 275 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 280 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 285 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 290 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 295 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 300 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 305 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 310 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 315 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 320 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 325 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 330 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 335 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 340 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 345 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 350 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 355 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 360 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 365 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 370 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

FireMaster® Balanket Stuctural Steel PFP (Two Layers)

| Section Factor up to m ⁻¹ | Table 10: I or H Section Beams and Columns: Fire Resistance Period: 60 Minutes | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 75 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 80 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 85 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 90 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 95 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 100 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 105 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 110 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 115 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 120 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 125 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 130 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 135 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 140 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 145 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 150 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 155 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 160 | 71 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 165 | 72 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 170 | 73 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 175 | 73 | 61 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 180 | 74 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 185 | 75 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 190 | 75 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 195 | 76 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 200 | 76 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 205 | 77 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 210 | 77 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 215 | 78 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 220 | 78 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 225 | 79 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 230 | 79 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 235 | 80 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 240 | 80 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 245 | 80 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 250 | 81 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 255 | 81 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 260 | 81 | 70 | 61 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 265 | 82 | 70 | 61 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 270 | 82 | 71 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 275 | 82 | 71 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 280 | 82 | 71 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 285 | 83 | 71 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 290 | 83 | 72 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 295 | 83 | 72 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 300 | 83 | 72 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 305 | 84 | 73 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 310 | 84 | 73 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 315 | 84 | 73 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 320 | 84 | 73 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 325 | 84 | 74 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 330 | 85 | 74 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 335 | 85 | 74 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 340 | 85 | 74 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 345 | 85 | 74 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 350 | 85 | 75 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 355 | 85 | 75 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 360 | 86 | 75 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 365 | 86 | 75 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 370 | 86 | 75 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

FireMaster® Balanket Stuctural Steel PFP (Two Layers)

| Section Factor up to m ⁻¹ | Table 11: I or H Section Beams and Columns: Fire Resistance Period: 90 Minutes | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 72 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 75 | 77 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 80 | 80 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 85 | 84 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 90 | 86 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 95 | 89 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 100 | 91 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 105 | - | 73 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 110 | - | 75 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 115 | - | 77 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 120 | - | 78 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 125 | - | 80 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 130 | - | 81 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 135 | - | 83 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 140 | - | 84 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 145 | - | 85 | 71 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 150 | - | 86 | 72 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 155 | - | 87 | 73 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 160 | - | 88 | 74 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 165 | - | 89 | 75 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 170 | - | 90 | 76 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 175 | - | 91 | 77 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 180 | - | 92 | 78 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 185 | - | 92 | 79 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 190 | - | - | 80 | 69 | 61 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 195 | - | - | 80 | 70 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 200 | - | - | 81 | 71 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 205 | - | - | 82 | 72 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 210 | - | - | 82 | 72 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 215 | - | - | 83 | 73 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 220 | - | - | 83 | 73 | 65 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 225 | - | - | 84 | 74 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 230 | - | - | 84 | 75 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 235 | - | - | 85 | 75 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 240 | - | - | 85 | 76 | 67 | 61 | 60 | 60 | 60 | 60 | 60 | 60 |
| 245 | - | - | 86 | 76 | 68 | 61 | 60 | 60 | 60 | 60 | 60 | 60 |
| 250 | - | - | 86 | 77 | 68 | 62 | 60 | 60 | 60 | 60 | 60 | 60 |
| 255 | - | - | 87 | 77 | 69 | 62 | 60 | 60 | 60 | 60 | 60 | 60 |
| 260 | - | - | 87 | 77 | 69 | 63 | 60 | 60 | 60 | 60 | 60 | 60 |
| 265 | - | - | 88 | 78 | 70 | 63 | 60 | 60 | 60 | 60 | 60 | 60 |
| 270 | - | - | 88 | 78 | 70 | 64 | 60 | 60 | 60 | 60 | 60 | 60 |
| 275 | - | - | 88 | 79 | 71 | 64 | 60 | 60 | 60 | 60 | 60 | 60 |
| 280 | - | - | 89 | 79 | 71 | 65 | 60 | 60 | 60 | 60 | 60 | 60 |
| 285 | - | - | 89 | 79 | 71 | 65 | 60 | 60 | 60 | 60 | 60 | 60 |
| 290 | - | - | 89 | 80 | 72 | 65 | 60 | 60 | 60 | 60 | 60 | 60 |
| 295 | - | - | 90 | 80 | 72 | 66 | 60 | 60 | 60 | 60 | 60 | 60 |
| 300 | - | - | 90 | 80 | 72 | 66 | 60 | 60 | 60 | 60 | 60 | 60 |
| 305 | - | - | 90 | 81 | 73 | 66 | 60 | 60 | 60 | 60 | 60 | 60 |
| 310 | - | - | 90 | 81 | 73 | 67 | 61 | 60 | 60 | 60 | 60 | 60 |
| 315 | - | - | 91 | 81 | 73 | 67 | 61 | 60 | 60 | 60 | 60 | 60 |
| 320 | - | - | 91 | 82 | 74 | 67 | 61 | 60 | 60 | 60 | 60 | 60 |
| 325 | - | - | 91 | 82 | 74 | 68 | 62 | 60 | 60 | 60 | 60 | 60 |
| 330 | - | - | 91 | 82 | 74 | 68 | 62 | 60 | 60 | 60 | 60 | 60 |
| 335 | - | - | 92 | 82 | 75 | 68 | 62 | 60 | 60 | 60 | 60 | 60 |
| 340 | - | - | 92 | 83 | 75 | 69 | 63 | 60 | 60 | 60 | 60 | 60 |
| 345 | - | - | 92 | 83 | 75 | 69 | 63 | 60 | 60 | 60 | 60 | 60 |
| 350 | - | - | 92 | 83 | 75 | 69 | 63 | 60 | 60 | 60 | 60 | 60 |
| 355 | - | - | - | 83 | 76 | 69 | 64 | 60 | 60 | 60 | 60 | 60 |
| 360 | - | - | - | 84 | 76 | 70 | 64 | 60 | 60 | 60 | 60 | 60 |
| 365 | - | - | - | 84 | 76 | 70 | 64 | 60 | 60 | 60 | 60 | 60 |
| 370 | - | - | - | 84 | 76 | 70 | 64 | 60 | 60 | 60 | 60 | 60 |

FireMaster® Balanket Stuctural Steel PFP (Two Layers)

| Section Factor up to m ⁻¹ | Table 12: I or H Section Beams and Columns: Fire Resistance Period: 120 Minutes | | | | | | | | | | | |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | - | 80 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 75 | - | 85 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 80 | - | 89 | 68 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 85 | - | 92 | 72 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 90 | - | - | 75 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 95 | - | - | 78 | 63 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 100 | - | - | 81 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 105 | - | - | 83 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 110 | - | - | 86 | 71 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 115 | - | - | 88 | 73 | 62 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 120 | - | - | 90 | 75 | 64 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 125 | - | - | 91 | 77 | 66 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 130 | - | - | - | 79 | 67 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 135 | - | - | - | 80 | 69 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 140 | - | - | - | 82 | 71 | 62 | 60 | 60 | 60 | 60 | 60 | 60 |
| 145 | - | - | - | 83 | 72 | 63 | 60 | 60 | 60 | 60 | 60 | 60 |
| 150 | - | - | - | 85 | 73 | 65 | 60 | 60 | 60 | 60 | 60 | 60 |
| 155 | - | - | - | 86 | 75 | 66 | 60 | 60 | 60 | 60 | 60 | 60 |
| 160 | - | - | - | 87 | 76 | 67 | 60 | 60 | 60 | 60 | 60 | 60 |
| 165 | - | - | - | 88 | 77 | 68 | 60 | 60 | 60 | 60 | 60 | 60 |
| 170 | - | - | - | 89 | 78 | 69 | 61 | 60 | 60 | 60 | 60 | 60 |
| 175 | - | - | - | 90 | 79 | 70 | 62 | 60 | 60 | 60 | 60 | 60 |
| 180 | - | - | - | 91 | 80 | 71 | 64 | 60 | 60 | 60 | 60 | 60 |
| 185 | - | - | - | 92 | 81 | 72 | 65 | 60 | 60 | 60 | 60 | 60 |
| 190 | - | - | - | - | 82 | 73 | 65 | 60 | 60 | 60 | 60 | 60 |
| 195 | - | - | - | - | 83 | 74 | 66 | 60 | 60 | 60 | 60 | 60 |
| 200 | - | - | - | - | 83 | 75 | 67 | 60 | 60 | 60 | 60 | 60 |
| 205 | - | - | - | - | 84 | 76 | 68 | 61 | 60 | 60 | 60 | 60 |
| 210 | - | - | - | - | 85 | 76 | 69 | 62 | 60 | 60 | 60 | 60 |
| 215 | - | - | - | - | 86 | 77 | 70 | 62 | 60 | 60 | 60 | 60 |
| 220 | - | - | - | - | 86 | 78 | 70 | 63 | 60 | 60 | 60 | 60 |
| 225 | - | - | - | - | 87 | 78 | 71 | 64 | 60 | 60 | 60 | 60 |
| 230 | - | - | - | - | 87 | 79 | 72 | 65 | 60 | 60 | 60 | 60 |
| 235 | - | - | - | - | 88 | 80 | 72 | 65 | 60 | 60 | 60 | 60 |
| 240 | - | - | - | - | 89 | 80 | 73 | 66 | 60 | 60 | 60 | 60 |
| 245 | - | - | - | - | 89 | 81 | 73 | 66 | 60 | 60 | 60 | 60 |
| 250 | - | - | - | - | 90 | 81 | 74 | 67 | 60 | 60 | 60 | 60 |
| 255 | - | - | - | - | 90 | 82 | 75 | 68 | 61 | 60 | 60 | 60 |
| 260 | - | - | - | - | 91 | 82 | 75 | 68 | 62 | 60 | 60 | 60 |
| 265 | - | - | - | - | 91 | 83 | 76 | 69 | 62 | 60 | 60 | 60 |
| 270 | - | - | - | - | 91 | 83 | 76 | 69 | 63 | 60 | 60 | 60 |
| 275 | - | - | - | - | 92 | 84 | 77 | 70 | 63 | 60 | 60 | 60 |
| 280 | - | - | - | - | 92 | 84 | 77 | 70 | 64 | 60 | 60 | 60 |
| 285 | - | - | - | - | - | 85 | 77 | 71 | 64 | 60 | 60 | 60 |
| 290 | - | - | - | - | - | 85 | 78 | 71 | 65 | 60 | 60 | 60 |
| 295 | - | - | - | - | - | 85 | 78 | 72 | 65 | 60 | 60 | 60 |
| 300 | - | - | - | - | - | 86 | 79 | 72 | 66 | 61 | 60 | 60 |
| 305 | - | - | - | - | - | 86 | 79 | 72 | 66 | 61 | 60 | 60 |
| 310 | - | - | - | - | - | 86 | 79 | 73 | 66 | 61 | 60 | 60 |
| 315 | - | - | - | - | - | 87 | 80 | 73 | 67 | 62 | 60 | 60 |
| 320 | - | - | - | - | - | 87 | 80 | 74 | 67 | 62 | 60 | 60 |
| 325 | - | - | - | - | - | 87 | 81 | 74 | 68 | 63 | 60 | 60 |
| 330 | - | - | - | - | - | 88 | 81 | 74 | 68 | 63 | 60 | 60 |
| 335 | - | - | - | - | - | 88 | 81 | 75 | 68 | 63 | 60 | 60 |
| 340 | - | - | - | - | - | 88 | 82 | 75 | 69 | 64 | 60 | 60 |
| 345 | - | - | - | - | - | 89 | 82 | 75 | 69 | 64 | 60 | 60 |
| 350 | - | - | - | - | - | 89 | 82 | 76 | 69 | 64 | 60 | 60 |
| 355 | - | - | - | - | - | 89 | 82 | 76 | 70 | 64 | 60 | 60 |
| 360 | - | - | - | - | - | 90 | 83 | 76 | 70 | 65 | 60 | 60 |
| 365 | - | - | - | - | - | 90 | 83 | 76 | 70 | 65 | 60 | 60 |
| 370 | - | - | - | - | - | 90 | 83 | 77 | 70 | 65 | 60 | 60 |

| FireMaster® Balanket Structural Steel PFP (Two Layers) | | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 13: I or H Section Beams and Columns: Fire Resistance Period: 180 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | - | - | - | 87 | 70 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 75 | - | - | - | - | 75 | 62 | 60 | 60 | 60 | 60 | 60 | 60 |
| 80 | - | - | - | - | 80 | 67 | 60 | 60 | 60 | 60 | 60 | 60 |
| 85 | - | - | - | - | 84 | 71 | 60 | 60 | 60 | 60 | 60 | 60 |
| 90 | - | - | - | - | 87 | 75 | 63 | 60 | 60 | 60 | 60 | 60 |
| 95 | - | - | - | - | 91 | 78 | 67 | 60 | 60 | 60 | 60 | 60 |
| 100 | - | - | - | - | - | 81 | 70 | 60 | 60 | 60 | 60 | 60 |
| 105 | - | - | - | - | - | 84 | 73 | 62 | 60 | 60 | 60 | 60 |
| 110 | - | - | - | - | - | 86 | 76 | 65 | 60 | 60 | 60 | 60 |
| 115 | - | - | - | - | - | 89 | 78 | 68 | 60 | 60 | 60 | 60 |
| 120 | - | - | - | - | - | 91 | 80 | 70 | 61 | 60 | 60 | 60 |
| 125 | - | - | - | - | - | - | 83 | 73 | 63 | 60 | 60 | 60 |
| 130 | - | - | - | - | - | - | 85 | 75 | 65 | 60 | 60 | 60 |
| 135 | - | - | - | - | - | - | 87 | 77 | 67 | 60 | 60 | 60 |
| 140 | - | - | - | - | - | - | 88 | 79 | 69 | 62 | 60 | 60 |
| 145 | - | - | - | - | - | - | 90 | 80 | 71 | 64 | 60 | 60 |
| 150 | - | - | - | - | - | - | 92 | 82 | 73 | 66 | 60 | 60 |
| 155 | - | - | - | - | - | - | - | 83 | 74 | 67 | 60 | 60 |
| 160 | - | - | - | - | - | - | - | 85 | 76 | 69 | 61 | 60 |
| 165 | - | - | - | - | - | - | - | 86 | 77 | 70 | 63 | 60 |
| 170 | - | - | - | - | - | - | - | 88 | 79 | 71 | 64 | 60 |
| 175 | - | - | - | - | - | - | - | 89 | 80 | 72 | 65 | 60 |
| 180 | - | - | - | - | - | - | - | 90 | 81 | 74 | 66 | 60 |
| 185 | - | - | - | - | - | - | - | 91 | 82 | 75 | 67 | 60 |
| 190 | - | - | - | - | - | - | - | 92 | 83 | 76 | 68 | 61 |
| 195 | - | - | - | - | - | - | - | - | 85 | 77 | 69 | 62 |
| 200 | - | - | - | - | - | - | - | - | 86 | 78 | 70 | 63 |
| 205 | - | - | - | - | - | - | - | - | 86 | 79 | 71 | 64 |
| 210 | - | - | - | - | - | - | - | - | 87 | 80 | 72 | 65 |
| 215 | - | - | - | - | - | - | - | - | 88 | 80 | 73 | 66 |
| 220 | - | - | - | - | - | - | - | - | 89 | 81 | 74 | 66 |
| 225 | - | - | - | - | - | - | - | - | 90 | 82 | 75 | 67 |
| 230 | - | - | - | - | - | - | - | - | 91 | 83 | 75 | 68 |
| 235 | - | - | - | - | - | - | - | - | 91 | 84 | 76 | 69 |
| 240 | - | - | - | - | - | - | - | - | 91 | 84 | 77 | 69 |
| 245 | - | - | - | - | - | - | - | - | - | 85 | 77 | 70 |
| 250 | - | - | - | - | - | - | - | - | - | 86 | 78 | 71 |
| 255 | - | - | - | - | - | - | - | - | - | 86 | 79 | 71 |
| 260 | - | - | - | - | - | - | - | - | - | 87 | 79 | 72 |
| 265 | - | - | - | - | - | - | - | - | - | 87 | 80 | 72 |
| 270 | - | - | - | - | - | - | - | - | - | 88 | 80 | 73 |
| 275 | - | - | - | - | - | - | - | - | - | 89 | 81 | 73 |
| 280 | - | - | - | - | - | - | - | - | - | 89 | 81 | 74 |
| 285 | - | - | - | - | - | - | - | - | - | 90 | 82 | 74 |
| 290 | - | - | - | - | - | - | - | - | - | 90 | 82 | 75 |
| 295 | - | - | - | - | - | - | - | - | - | 91 | 83 | 75 |
| 300 | - | - | - | - | - | - | - | - | - | 91 | 83 | 76 |
| 305 | - | - | - | - | - | - | - | - | - | 91 | 84 | 76 |
| 310 | - | - | - | - | - | - | - | - | - | 92 | 84 | 77 |
| 315 | - | - | - | - | - | - | - | - | - | 92 | 85 | 77 |
| 320 | - | - | - | - | - | - | - | - | - | - | 85 | 77 |
| 325 | - | - | - | - | - | - | - | - | - | - | 85 | 78 |
| 330 | - | - | - | - | - | - | - | - | - | - | 86 | 78 |
| 335 | - | - | - | - | - | - | - | - | - | - | 86 | 78 |
| 340 | - | - | - | - | - | - | - | - | - | - | 87 | 79 |
| 345 | - | - | - | - | - | - | - | - | - | - | 87 | 79 |
| 350 | - | - | - | - | - | - | - | - | - | - | 87 | 80 |
| 355 | - | - | - | - | - | - | - | - | - | - | 88 | 80 |
| 360 | - | - | - | - | - | - | - | - | - | - | 88 | 80 |
| 365 | - | - | - | - | - | - | - | - | - | - | 88 | 80 |
| 370 | - | - | - | - | - | - | - | - | - | - | 89 | 81 |

| FireMaster® Balanket Stuctural Steel PFP (Two Layers) | | | | | | | | | | | | |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ¹ | Table 14: Rectangular and Circular Hollow Columns: Fire Resistance Period: 30 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 75 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 80 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 85 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 90 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 95 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 100 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 105 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 110 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 115 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 120 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 125 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 130 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 135 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 140 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 145 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 150 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 155 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 160 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 165 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 170 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 175 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 180 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 185 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 190 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 195 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 200 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 205 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 210 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 215 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 220 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 225 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 230 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 235 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 240 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 245 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 250 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 255 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 260 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 265 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 270 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 275 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 280 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 285 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 290 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 295 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 300 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 305 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 310 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 315 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 320 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 325 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 330 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 335 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 340 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 345 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 350 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 355 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 360 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 365 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 370 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |

| FireMaster® Balanket Stuctural Steel PFP (Two Layers) | | | | | | | | | | | | |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ¹ | Table 15: Rectangular and Circular Hollow Columns: Fire Resistance Period: 60 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 75 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 80 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 85 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 90 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 95 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 100 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 105 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 110 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 115 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 120 | 69 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 125 | 72 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 130 | 73 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 135 | 75 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 140 | 76 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 145 | 78 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 150 | 79 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 155 | 81 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 160 | 82 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 165 | 84 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 170 | 85 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 175 | 86 | 72 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 180 | 87 | 73 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 185 | 89 | 73 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 190 | 89 | 75 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 195 | 91 | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 200 | 91 | 77 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 205 | - | 78 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 210 | - | 80 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 215 | - | 80 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 220 | - | 82 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 225 | - | 82 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 230 | - | 82 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 235 | - | 84 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 240 | - | 84 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 245 | - | 86 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 250 | - | 86 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 255 | - | 88 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 260 | - | 88 | 76 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 265 | - | 88 | 76 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 270 | - | 89 | 78 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 275 | - | 89 | 78 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 280 | - | 89 | 78 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 285 | - | 89 | 79 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 290 | - | 90 | 79 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 295 | - | 90 | 79 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 300 | - | 90 | 80 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 305 | - | 91 | 80 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 310 | - | 91 | 80 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 315 | - | 91 | 80 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 320 | - | 91 | 81 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 325 | - | - | 81 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 330 | - | - | 81 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 335 | - | - | 81 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 340 | - | - | 83 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 345 | - | - | 83 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 350 | - | - | 83 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 355 | - | - | 83 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 360 | - | - | 83 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 365 | - | - | 84 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| 370 | - | - | 84 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |

FireMaster® Balanket Stuctural Steel PFP (Two Layers)

| Section Factor up to m ¹ | Table 16: Rectangular and Circular Hollow Columns: Fire Resistance Period: 90 Minutes | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | 77 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 75 | 83 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 80 | 86 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 85 | 91 | 67 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 90 | - | 71 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 95 | - | 74 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 100 | - | 77 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 105 | - | 81 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 110 | - | 83 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 115 | - | 86 | 69 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 120 | - | 87 | 72 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 125 | - | 90 | 73 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 130 | - | 92 | 76 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 135 | - | - | 77 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 140 | - | - | 80 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 145 | - | - | 81 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 150 | - | - | 83 | 71 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 155 | - | - | 84 | 73 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| 160 | - | - | 86 | 74 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 165 | - | - | 87 | 76 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 170 | - | - | 89 | 77 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| 175 | - | - | 90 | 79 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 180 | - | - | 92 | 80 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 185 | - | - | - | 82 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 190 | - | - | - | 82 | 73 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| 195 | - | - | - | 84 | 74 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 200 | - | - | - | 85 | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 205 | - | - | - | 87 | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| 210 | - | - | - | 87 | 77 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 215 | - | - | - | 89 | 79 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 220 | - | - | - | 89 | 79 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| 225 | - | - | - | 91 | 81 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 230 | - | - | - | 92 | 81 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 235 | - | - | - | - | 83 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| 240 | - | - | - | - | 83 | 76 | 74 | 74 | 74 | 74 | 74 | 74 |
| 245 | - | - | - | - | 85 | 76 | 75 | 75 | 75 | 75 | 75 | 75 |
| 250 | - | - | - | - | 85 | 78 | 75 | 75 | 75 | 75 | 75 | 75 |
| 255 | - | - | - | - | 86 | 78 | 75 | 75 | 75 | 75 | 75 | 75 |
| 260 | - | - | - | - | 86 | 79 | 75 | 75 | 75 | 75 | 75 | 75 |
| 265 | - | - | - | - | 88 | 79 | 75 | 75 | 75 | 75 | 75 | 75 |
| 270 | - | - | - | - | 88 | 80 | 75 | 75 | 75 | 75 | 75 | 75 |
| 275 | - | - | - | - | 89 | 80 | 75 | 75 | 75 | 75 | 75 | 75 |
| 280 | - | - | - | - | 89 | 81 | 75 | 75 | 75 | 75 | 75 | 75 |
| 285 | - | - | - | - | 89 | 81 | 75 | 75 | 75 | 75 | 75 | 75 |
| 290 | - | - | - | - | 90 | 81 | 75 | 75 | 75 | 75 | 75 | 75 |
| 295 | - | - | - | - | 90 | 83 | 75 | 75 | 75 | 75 | 75 | 75 |
| 300 | - | - | - | - | 90 | 83 | 75 | 75 | 75 | 75 | 75 | 75 |
| 305 | - | - | - | - | 91 | 83 | 75 | 75 | 75 | 75 | 75 | 75 |
| 310 | - | - | - | - | 91 | 84 | 76 | 75 | 75 | 75 | 75 | 75 |
| 315 | - | - | - | - | 91 | 84 | 76 | 75 | 75 | 75 | 75 | 75 |
| 320 | - | - | - | - | - | 84 | 76 | 75 | 75 | 75 | 75 | 75 |
| 325 | - | - | - | - | - | 85 | 78 | 75 | 75 | 75 | 75 | 75 |
| 330 | - | - | - | - | - | 85 | 78 | 75 | 75 | 75 | 75 | 75 |
| 335 | - | - | - | - | - | 85 | 78 | 75 | 75 | 75 | 75 | 75 |
| 340 | - | - | - | - | - | 86 | 79 | 75 | 75 | 75 | 75 | 75 |
| 345 | - | - | - | - | - | 86 | 79 | 75 | 75 | 75 | 75 | 75 |
| 350 | - | - | - | - | - | 86 | 79 | 75 | 75 | 75 | 75 | 75 |
| 355 | - | - | - | - | - | 86 | 80 | 75 | 75 | 75 | 75 | 75 |
| 360 | - | - | - | - | - | 88 | 80 | 75 | 75 | 75 | 75 | 75 |
| 365 | - | - | - | - | - | 88 | 80 | 75 | 75 | 75 | 75 | 75 |
| 370 | - | - | - | - | - | 88 | 80 | 75 | 75 | 75 | 75 | 75 |

FireMaster® Balanket Structural Steel PFP (Two Layers)

Table 17: Rectangular and Circular Hollow Columns: Fire Resistance Period: 120 Minutes

| Section Factor up to m ¹ | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | - | 86 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 75 | - | 91 | 69 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 80 | - | - | 73 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 85 | - | - | 78 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 90 | - | - | 82 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 95 | - | - | 85 | 69 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 100 | - | - | 89 | 73 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 105 | - | - | 92 | 76 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| 110 | - | - | - | 79 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 115 | - | - | - | 81 | 69 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 120 | - | - | - | 84 | 72 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| 125 | - | - | - | 87 | 74 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 130 | - | - | - | 89 | 76 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 135 | - | - | - | 91 | 78 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| 140 | - | - | - | - | 81 | 71 | 68 | 68 | 68 | 68 | 68 | 68 |
| 145 | - | - | - | - | 82 | 72 | 69 | 69 | 69 | 69 | 69 | 69 |
| 150 | - | - | - | - | 84 | 75 | 69 | 69 | 69 | 69 | 69 | 69 |
| 155 | - | - | - | - | 87 | 76 | 69 | 69 | 69 | 69 | 69 | 69 |
| 160 | - | - | - | - | 88 | 78 | 70 | 70 | 70 | 70 | 70 | 70 |
| 165 | - | - | - | - | 90 | 79 | 70 | 70 | 70 | 70 | 70 | 70 |
| 170 | - | - | - | - | 91 | 81 | 71 | 70 | 70 | 70 | 70 | 70 |
| 175 | - | - | - | - | - | 82 | 73 | 71 | 71 | 71 | 71 | 71 |
| 180 | - | - | - | - | - | 84 | 76 | 71 | 71 | 71 | 71 | 71 |
| 185 | - | - | - | - | - | 85 | 77 | 71 | 71 | 71 | 71 | 71 |
| 190 | - | - | - | - | - | 87 | 77 | 71 | 71 | 71 | 71 | 71 |
| 195 | - | - | - | - | - | 88 | 79 | 72 | 72 | 72 | 72 | 72 |
| 200 | - | - | - | - | - | 90 | 80 | 72 | 72 | 72 | 72 | 72 |
| 205 | - | - | - | - | - | 92 | 82 | 74 | 72 | 72 | 72 | 72 |
| 210 | - | - | - | - | - | 92 | 83 | 75 | 73 | 73 | 73 | 73 |
| 215 | - | - | - | - | - | - | 85 | 75 | 73 | 73 | 73 | 73 |
| 220 | - | - | - | - | - | - | 85 | 77 | 73 | 73 | 73 | 73 |
| 225 | - | - | - | - | - | - | 87 | 78 | 74 | 74 | 74 | 74 |
| 230 | - | - | - | - | - | - | 89 | 80 | 74 | 74 | 74 | 74 |
| 235 | - | - | - | - | - | - | 89 | 80 | 74 | 74 | 74 | 74 |
| 240 | - | - | - | - | - | - | 91 | 82 | 74 | 74 | 74 | 74 |
| 245 | - | - | - | - | - | - | 91 | 82 | 75 | 75 | 75 | 75 |
| 250 | - | - | - | - | - | - | - | 84 | 75 | 75 | 75 | 75 |
| 255 | - | - | - | - | - | - | - | 85 | 76 | 75 | 75 | 75 |
| 260 | - | - | - | - | - | - | - | 85 | 78 | 75 | 75 | 75 |
| 265 | - | - | - | - | - | - | - | 86 | 78 | 75 | 75 | 75 |
| 270 | - | - | - | - | - | - | - | 86 | 79 | 75 | 75 | 75 |
| 275 | - | - | - | - | - | - | - | 88 | 79 | 75 | 75 | 75 |
| 280 | - | - | - | - | - | - | - | 88 | 80 | 75 | 75 | 75 |
| 285 | - | - | - | - | - | - | - | 89 | 80 | 75 | 75 | 75 |
| 290 | - | - | - | - | - | - | - | 89 | 81 | 75 | 75 | 75 |
| 295 | - | - | - | - | - | - | - | 90 | 81 | 75 | 75 | 75 |
| 300 | - | - | - | - | - | - | - | 90 | 83 | 76 | 75 | 75 |
| 305 | - | - | - | - | - | - | - | 90 | 83 | 76 | 75 | 75 |
| 310 | - | - | - | - | - | - | - | 91 | 83 | 76 | 75 | 75 |
| 315 | - | - | - | - | - | - | - | 91 | 84 | 78 | 75 | 75 |
| 320 | - | - | - | - | - | - | - | - | 84 | 78 | 75 | 75 |
| 325 | - | - | - | - | - | - | - | - | 85 | 79 | 75 | 75 |
| 330 | - | - | - | - | - | - | - | - | 85 | 79 | 75 | 75 |
| 335 | - | - | - | - | - | - | - | - | 85 | 79 | 75 | 75 |
| 340 | - | - | - | - | - | - | - | - | 86 | 80 | 75 | 75 |
| 345 | - | - | - | - | - | - | - | - | 86 | 80 | 75 | 75 |
| 350 | - | - | - | - | - | - | - | - | 86 | 80 | 75 | 75 |
| 355 | - | - | - | - | - | - | - | - | 88 | 80 | 75 | 75 |
| 360 | - | - | - | - | - | - | - | - | 88 | 81 | 75 | 75 |
| 365 | - | - | - | - | - | - | - | - | 88 | 81 | 75 | 75 |
| 370 | - | - | - | - | - | - | - | - | 88 | 81 | 75 | 75 |

| FireMaster® Balanket Structural Steel PFP (Two Layers) | | | | | | | | | | | | |
|--|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Section Factor up to m ⁻¹ | Table 18: Rectangular and Circular Hollow Columns: Fire Resistance Period: 180 Minutes | | | | | | | | | | | |
| | Thickness (mm) Required for a Design Temperature of | | | | | | | | | | | |
| | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C | 500°C | 550°C | 600°C | 650°C | 700°C |
| 70 | - | - | - | - | 75 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 75 | - | - | - | - | 81 | 67 | 65 | 65 | 65 | 65 | 65 | 65 |
| 80 | - | - | - | - | 86 | 72 | 65 | 65 | 65 | 65 | 65 | 65 |
| 85 | - | - | - | - | 91 | 77 | 65 | 65 | 65 | 65 | 65 | 65 |
| 90 | - | - | - | - | - | 82 | 69 | 65 | 65 | 65 | 65 | 65 |
| 95 | - | - | - | - | - | 85 | 73 | 66 | 66 | 66 | 66 | 66 |
| 100 | - | - | - | - | - | 89 | 77 | 66 | 66 | 66 | 66 | 66 |
| 105 | - | - | - | - | - | - | 81 | 69 | 66 | 66 | 66 | 66 |
| 110 | - | - | - | - | - | - | 84 | 72 | 67 | 67 | 67 | 67 |
| 115 | - | - | - | - | - | - | 87 | 76 | 67 | 67 | 67 | 67 |
| 120 | - | - | - | - | - | - | 90 | 78 | 68 | 67 | 67 | 67 |
| 125 | - | - | - | - | - | - | - | 82 | 71 | 68 | 68 | 68 |
| 130 | - | - | - | - | - | - | - | 85 | 73 | 68 | 68 | 68 |
| 135 | - | - | - | - | - | - | - | 87 | 76 | 68 | 68 | 68 |
| 140 | - | - | - | - | - | - | - | 90 | 79 | 71 | 68 | 68 |
| 145 | - | - | - | - | - | - | - | 92 | 81 | 73 | 69 | 69 |
| 150 | - | - | - | - | - | - | - | - | 84 | 76 | 69 | 69 |
| 155 | - | - | - | - | - | - | - | - | 85 | 77 | 69 | 69 |
| 160 | - | - | - | - | - | - | - | - | 88 | 80 | 71 | 70 |
| 165 | - | - | - | - | - | - | - | - | 90 | 82 | 73 | 70 |
| 170 | - | - | - | - | - | - | - | - | 92 | 83 | 75 | 70 |
| 175 | - | - | - | - | - | - | - | - | - | 85 | 76 | 71 |
| 180 | - | - | - | - | - | - | - | - | - | 87 | 78 | 71 |
| 185 | - | - | - | - | - | - | - | - | - | 89 | 79 | 71 |
| 190 | - | - | - | - | - | - | - | - | - | 90 | 81 | 73 |
| 195 | - | - | - | - | - | - | - | - | - | 92 | 82 | 74 |
| 200 | - | - | - | - | - | - | - | - | - | - | 84 | 76 |
| 205 | - | - | - | - | - | - | - | - | - | - | 86 | 77 |
| 210 | - | - | - | - | - | - | - | - | - | - | 87 | 79 |
| 215 | - | - | - | - | - | - | - | - | - | - | 89 | 80 |
| 220 | - | - | - | - | - | - | - | - | - | - | 90 | 81 |
| 225 | - | - | - | - | - | - | - | - | - | - | 92 | 82 |
| 230 | - | - | - | - | - | - | - | - | - | - | 92 | 84 |
| 235 | - | - | - | - | - | - | - | - | - | - | - | 85 |
| 240 | - | - | - | - | - | - | - | - | - | - | - | 86 |
| 245 | - | - | - | - | - | - | - | - | - | - | - | 87 |
| 250 | - | - | - | - | - | - | - | - | - | - | - | 89 |
| 255 | - | - | - | - | - | - | - | - | - | - | - | 89 |
| 260 | - | - | - | - | - | - | - | - | - | - | - | 90 |
| 265 | - | - | - | - | - | - | - | - | - | - | - | 90 |
| 270 | - | - | - | - | - | - | - | - | - | - | - | 91 |
| 275 | - | - | - | - | - | - | - | - | - | - | - | 91 |