

Grating Standards & Compliance



- ▶ For over 35 years Lionweld Kennedy have operated in the Oil and Gas industry.
- ▶ We supply fabricated gratings, stair treads, barrier rail systems, platforms and support structures in both steel and GRP.
- ▶ Many of our products are specified at design stage and we pride ourselves in supplying quality products globally.
- ▶ Our product range has developed over the years with our technical department having made significant improvements to the slip resistance of our gratings, structural integrity and additional health & safety qualities, which comply to current British and European standards (both steel and GRP).

Requirements of the British Standard Gratings - “Compliance”

BS4592-0:2006+A1:2012



The maximum openings within a working platform or walkway shall not permit the passage of a 35mm diameter sphere, except where the working platform or walkway is above a place where people are working, as opposed to passing occasionally, then the maximum openings shall not permit the passage of a 20mm diameter sphere.



Where metal treads or landings are used for fire escapes, the gratings shall not allow passage of a 20mm diameter ball.



Mandatory Legal Requirement

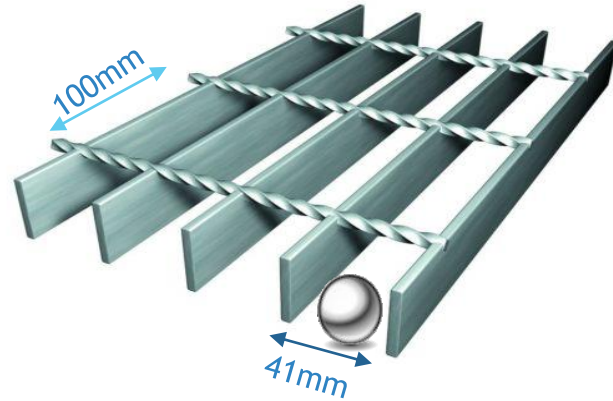
BS EN ISO 14122-2:2016, states at 4.2.4.5 - Permanent means of access to machinery

“- Floorings of working platforms or walkways shall only have such maximum openings that a ball with a diameter of 35mm cannot fall through.

Floorings above a place where people are working, as opposed to occasional passage, shall have such maximum openings that a ball with a diameter of 20mm cannot fall through.

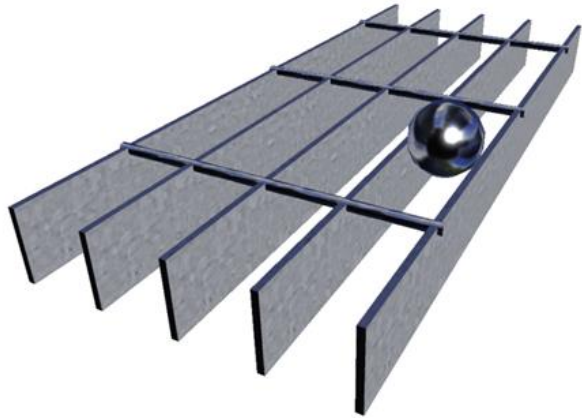


The most commonly used grating size is 41 / 100 - What has changed ?



- 41 / 100 is now non compliant “in many areas”
- The “OLD” 2006 standard met a 40mm Ball Proof Specification

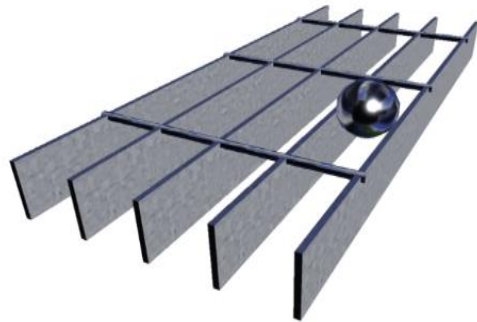
OLD Market



	35mm BP	20mm BP	Non BP	
41/100				Not 35mm or 20mm Ball Proof
33/100				Over Compliant
30/100				Unnecessary amount of steel in the product
20/100				Over compliant

Key Design Criteria Since 2012

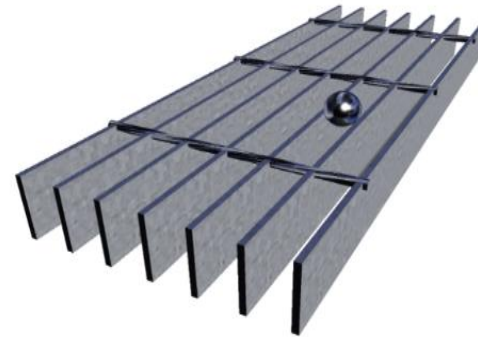
35mm Ball Proof



General Walkways where people may occasionally walk

Bar thickness	Mesh Size
3mm	37/125
5mm	38/125

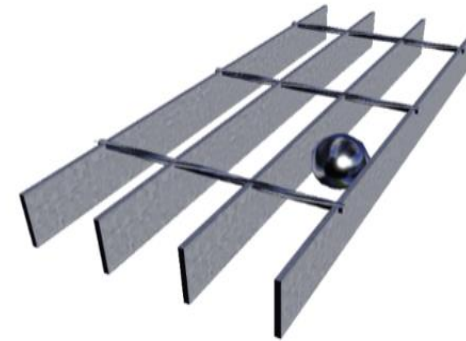
20mm Ball Proof



Where people may work below the walkway or where stairs are used as means of escape

Bar thickness	Mesh Size
3mm	21/100
5mm	23/100

Utility Grating (no ball proof Requirements)

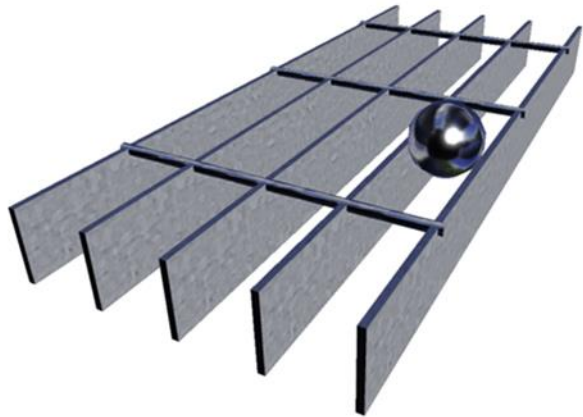


Utility Gratings where there is no risk of people passing below the walkway and is not used as 'Access to Machinery'



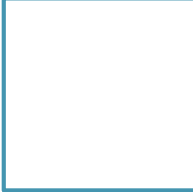


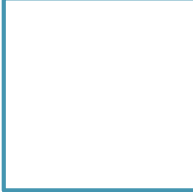



Bar thickness	Mesh Size
3mm	47/125
5mm	47/125



NEW Market



35mm BP 20mm BP Utility Grating

LK35BP			
LK20BP			
LKUG			

Thank you



3MM LK20BP (MESH SIZE 21/100)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 3	5kn/m ²	1075	3.98	1300	6.16	30.49	1.18
	7.5kn/m ²	1055	3.99	1155	5.73		
30 x 3	5kn/m ²	1305	4.00	1580	7.90	36.03	1.41
	7.5kn/m ²	1210	3.98	1390	6.90		
35 x 3	5kn/m ²	1535	3.99	1840	9.17	41.56	1.65
	7.5kn/m ²	1355	3.94	1620	8.05		
40 x 3	5kn/m ²	1655	4.00	2080	9.98	47.09	1.88
	7.5kn/m ²	1505	4.00	1855	9.23		

5MM LK20BP (MESH SIZE - 23/100)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 5	5kn/m ²	1290	3.90	1525	7.62	45.01	1.96
	7.5kn/m ²	1180	3.98	1340	6.63		
30 x 5	5kn/m ²	1485	3.98	1825	9.09	53.45	2.36
	7.5kn/m ²	1350	3.95	1610	8.00		
35 x 5	5kn/m ²	1665	4.00	2090	9.91	61.89	2.75
	7.5kn/m ²	1515	3.96	1880	9.39		
40 x 5	5kn/m ²	1830	3.94	2305	9.92	70.33	3.14
	7.5kn/m ²	1675	3.98	2105	9.94		
45 x 5	5kn/m ²	2005	3.97	2525	9.99	78.77	3.53
	7.5kn/m ²	1830	3.97	2305	9.99		
50 x 5	5kn/m ²	2160	4.00	2715	9.98	87.21	3.93
	7.5kn/m ²	1975	3.99	2485	9.99		
60 x 5	5kn/m ²	2460	3.98	3095	9.98	104.09	4.71
	7.5kn/m ²	2255	3.98	2835	9.95		

3MM LK35BP (MESH SIZE - 37/125)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 3	5kn/m ²	875	3.99	930	4.61	18.74	1.18
	7.5kn/m ²	875	3.99	930	4.61		
30 x 3	5kn/m ²	1060	4.00	1170	5.05	22.03	1.41
	7.5kn/m ²	1060	4.00	1170	5.82		
35 x 3	5kn/m ²	1240	3.96	1420	5.43	25.33	1.65
	7.5kn/m ²	1195	3.97	1365	6.77		
40 x 3	5kn/m ²	1430	3.98	1700	7.35	28.63	1.88
	7.5kn/m ²	1320	3.95	1565	7.79		

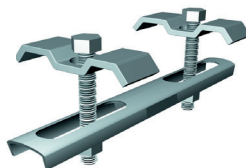
5MM LK35BP (MESH SIZE - 38/125)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 5	5kn/m ²	1145	3.99	1310	6.51	28.74	1.96
	7.5kn/m ²	1050	3.96	1150	5.70		
30 x 5	5kn/m ²	1330	4.00	1575	7.86	34.04	2.36
	7.5kn/m ²	1205	3.96	1385	6.91		
35 x 5	5kn/m ²	1490	3.97	1835	9.13	39.34	2.75
	7.5kn/m ²	1355	3.98	1615	8.03		
40 x 5	5kn/m ²	1645	3.97	2070	9.96	44.64	3.14
	7.5kn/m ²	1495	3.95	1845	9.18		
45 x 5	5kn/m ²	1800	3.98	2265	9.98	49.94	3.53
	7.5kn/m ²	1635	3.96	2060	9.98		
50 x 5	5kn/m ²	1940	3.98	2440	9.95	55.24	3.93
	7.5kn/m ²	1765	3.96	2225	9.99		
60 x 5	5kn/m ²	2200	4.00	2790	9.98	65.84	4.71
	7.5kn/m ²	2020	3.96	2545	9.98		

3MM UTILITY GRATING (MESH SIZE - 47/125)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 3	5kn/m ²	775	3.69	775	3.69	15.20	1.18
	7.5kn/m ²	775	3.69	775	3.69		
30 x 3	5kn/m ²	965	3.98	1035	4.70	17.79	1.41
	7.5kn/m ²	965	3.98	1035	4.70		
35 x 3	5kn/m ²	1135	3.99	1255	5.05	20.38	1.65
	7.5kn/m ²	1125	3.99	1255	6.17		
40 x 3	5kn/m ²	1305	3.98	1495	5.46	22.97	1.88
	7.5kn/m ²	1245	3.98	1440	7.12		

5MM UTILITY GRATING (MESH SIZE - 47/125)							
Bearing Bar Dimensions (mm)	Loading Category	Max Clear Span 4mm	Deflection (mm)	Max Clear Span L/200 or 10mm	Deflection (mm)	Self Colour Weights Per Square Metre (kgs)	Binding Bar Weight Based on 2x1m (kgs)
25 x 5	5kn/m ²	1050	3.98	1225	6.10	23.84	1.96
	7.5kn/m ²	995	3.92	1075	5.34		
30 x 5	5kn/m ²	1265	4.00	1470	7.29	28.16	2.36
	7.5kn/m ²	1145	3.96	1290	6.38		
35 x 5	5kn/m ²	1415	3.95	1715	8.52	32.47	2.75
	7.5kn/m ²	1285	3.95	1510	7.53		
40 x 5	5kn/m ²	1565	3.97	1960	9.77	36.79	3.14
	7.5kn/m ²	1420	3.95	1725	8.59		
45 x 5	5kn/m ²	1710	3.96	2155	9.98	41.11	3.53
	7.5kn/m ²	1555	3.97	1955	9.91		
50 x 5	5kn/m ²	1850	3.99	2325	9.97	45.43	3.93
	7.5kn/m ²	1680	3.97	2115	9.97		
60 x 5	5kn/m ²	2115	3.99	2660	9.98	54.06	4.71
	7.5kn/m ²	1925	3.98	2420	9.95		

Notes

1. Deflection in the table above is limited to span/200 or 10mm, whichever is the lesser.
2. It should be noted that the difference in level between a loaded and a neighbouring unloaded flooring shall not exceed 4mm. LK panel joint clips can be used to negate this issue. The tables have both options listed.
3. The tables are based upon BS4592-0:2006+A1:2012 & BS5950-1:2000
Table 2 Which is a 5kn/m² or 7.5kn/m² UDL OR a 1.5kn point load over a 200mmx200mm contact area, whichever is the more onerous.
4. The tables take into consideration MINIMUM bearing bar rolling tolerances as defined by LKFS-STD-98
5. Material is BS EN 10025 Grade S275JR



PANEL JOINING CLIPS ARE REQUIRED IF L/200 OR 10MM DEFLECTION IS USED



Lionweld Kennedy Flooring Limited. Marsh Road, Middlesbrough, TS1 5JS.

Reception +44 (0) 1642 245151	Sales +44 (0) 1642 233299	Technical Team +44 (0) 1642 233297	Email technical@lk-uk.com	Email sales@lk-uk.com	Follow us @LionweldKennedy	www.lk-uk.com
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