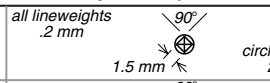
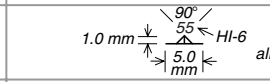
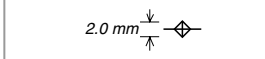
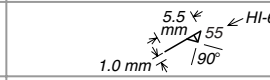
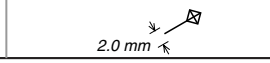
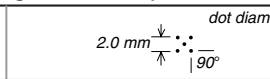
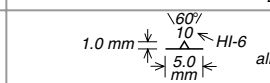
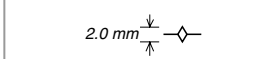
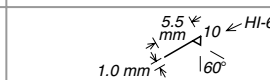
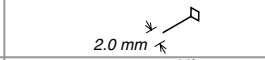
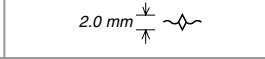
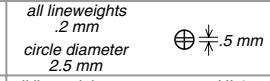
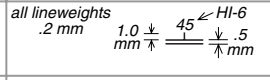
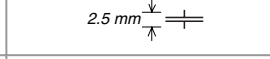
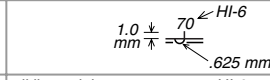
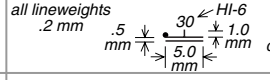
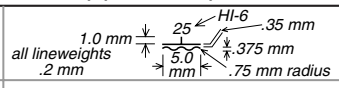
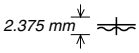
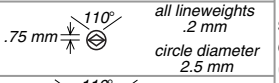
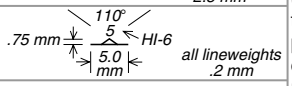
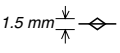
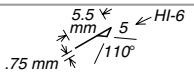
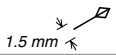
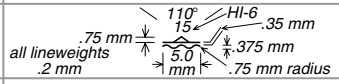
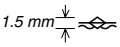
8—FOLIATION

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.1—Generic foliation (origin not known or not specified)				
8.1.1	Horizontal generic (origin not known or not specified) foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.1.2	Inclined generic (origin not known or not specified) foliation—Showing strike and dip			
8.1.3	Vertical generic (origin not known or not specified) foliation—Showing strike			
8.1.4	Inclined (dip direction to right) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip			
8.1.5	Inclined (dip direction to left) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip			
8.1.6	Vertical generic (origin not known or not specified) foliation or foliation, for multiple observations at one locality—Showing strike			
8.2—Primary foliation or layering (in igneous rocks)				
8.2.1	Massive igneous rock			May be used at locality where foliation and lineation are absent.
8.2.2	Horizontal flow banding, lamination, layering, or foliation in igneous rock			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.2.3	Inclined flow banding, lamination, layering, or foliation in igneous rock—Showing strike and dip			
8.2.4	Vertical flow banding, lamination, layering, or foliation in igneous rock—Showing strike			
8.2.5	Inclined (dip direction to right) flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip			
8.2.6	Inclined (dip direction to left) flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip			
8.2.7	Vertical flow banding, lamination, layering, or foliation in igneous rock, for multiple observations at one locality—Showing strike			
8.2.8	Inclined crinkled or deformed flow banding, lamination, layering, or foliation in igneous rock—Showing approximate strike and dip			
8.2.9	Vertical or near-vertical crinkled or deformed flow banding, lamination, layering, or foliation in igneous rock—Showing approximate strike			
8.2.10	Horizontal cumulate foliation			Inclined (upright) and overturned cumulate foliation symbols are used when the top direction of layers is known to a reasonable degree of certainty. Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known".
8.2.11	Inclined cumulate foliation—Showing strike and dip			
8.2.12	Vertical cumulate foliation—Showing strike			
8.2.13	Overturned cumulate foliation—Showing strike and dip			
8.2.14	Inclined cumulate foliation, where top direction of layers is known from local features—Showing strike and dip			
8.2.15	Vertical cumulate foliation, where top direction of layers is known from local features—Showing strike. Ball shows top direction			
8.2.16	Overturned cumulate foliation, where top direction of layers is known from local features—Showing strike and dip			

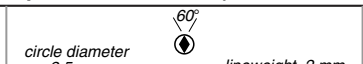
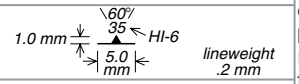
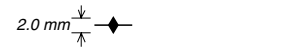
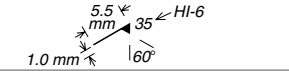
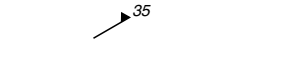
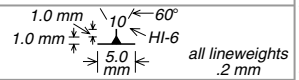
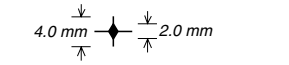
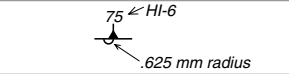
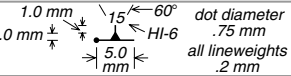
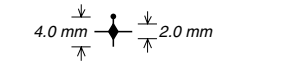
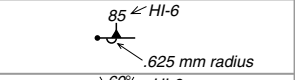
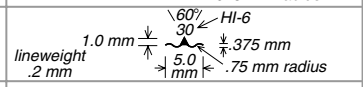
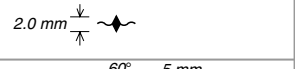
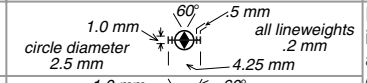
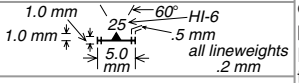
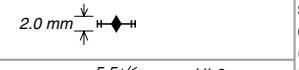
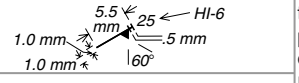
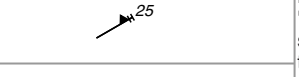
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.2—Primary foliation or layering (in igneous rocks) (continued)				
8.2.17	Inclined crinkled or deformed cumulate foliation—Showing approximate strike and dip			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.2.18	Vertical or near-vertical crinkled or deformed cumulate foliation—Showing approximate strike			
8.2.19	Horizontal eutaxitic foliation			
8.2.20	Inclined eutaxitic foliation—Showing strike and dip			
8.2.21	Vertical or near-vertical eutaxitic foliation—Showing strike			
8.2.22	Inclined (dip direction to right) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip			
8.2.23	Inclined (dip direction to left) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip			
8.2.24	Vertical or near-vertical eutaxitic foliation, for multiple observations at one locality—Showing strike			
8.2.25	Inclined crinkled or deformed eutaxitic foliation—Showing approximate strike and dip			
8.2.26	Vertical or near-vertical crinkled or deformed eutaxitic foliation—Showing approximate strike			

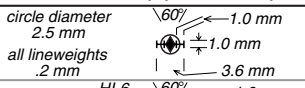
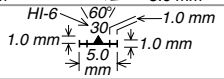
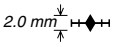
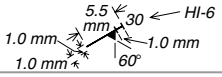
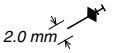
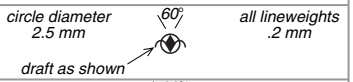
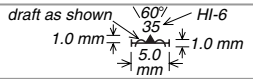
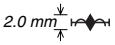
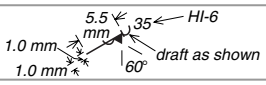
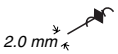
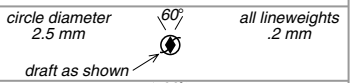
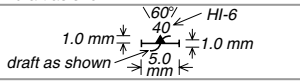
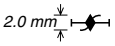
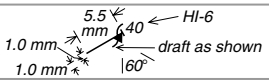
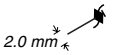
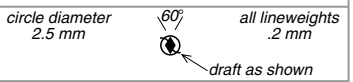
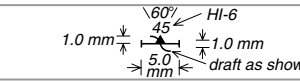
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.3—Secondary foliation (caused by metamorphism or tectonism)				
8.3.1	Horizontal metamorphic or tectonic foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.2	Inclined metamorphic or tectonic foliation—Showing strike and dip			
8.3.3	Vertical metamorphic or tectonic foliation—Showing strike			
8.3.4	Inclined (dip direction to right) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.5	Inclined (dip direction to left) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.6	Vertical metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike			
8.3.7	Horizontal metamorphic or tectonic foliation parallel to bedding			Inclined (upright) and overturned foliation symbols are used when the top direction of bedding is known to a reasonable degree of certainty. Symbols that have a ball may be used to indicate a greater level of certainty in the determination of top direction. On maps where determination of top direction is "known" at some places and "unknown" at others, symbols that have a ball also may be used to indicate where top direction is "known".
8.3.8	Inclined metamorphic or tectonic foliation parallel to bedding—Showing strike and dip			
8.3.9	Vertical metamorphic or tectonic foliation parallel to bedding—Showing strike			
8.3.10	Inclined metamorphic or tectonic foliation parallel to overturned bedding—Showing strike and dip			
8.3.11	Inclined metamorphic or tectonic foliation parallel to upright bedding, where top direction of beds is known from local features—Showing strike and dip			
8.3.12	Vertical metamorphic or tectonic foliation parallel to bedding, where top direction of beds is known from local features—Showing strike. Ball shows top direction			
8.3.13	Inclined metamorphic or tectonic foliation parallel to overturned bedding, where top direction of beds is known from local features—Showing strike and dip			
8.3.14	Inclined crinkled or deformed metamorphic or tectonic foliation—Showing approximate strike and dip			
8.3.15	Vertical or near-vertical crinkled or deformed metamorphic or tectonic foliation—Showing approximate strike			
8.3.16	Horizontal continuous, penetrative foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.17	Inclined continuous, penetrative foliation—Showing strike and dip			
8.3.18	Vertical continuous, penetrative foliation—Showing strike			
8.3.19	Inclined (dip direction to right) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip			
8.3.20	Inclined (dip direction to left) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip			
8.3.21	Vertical continuous, penetrative foliation, for multiple observations at one locality—Showing strike			

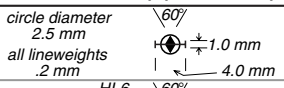
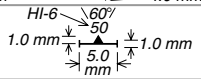
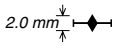
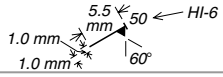
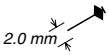
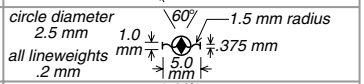
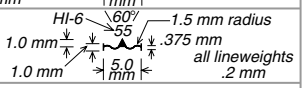
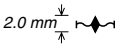
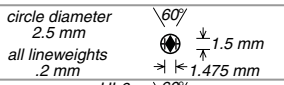
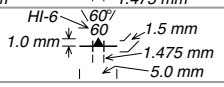
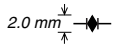
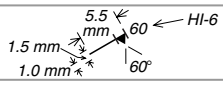
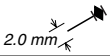
**For more information, see general guidelines on pages A-i to A-v.*

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	8.3—Secondary foliation (caused by metamorphism or tectonism) (continued)			
8.3.22	Horizontal disjunctive, spaced foliation			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.23	Inclined disjunctive, spaced foliation—Showing strike and dip			
8.3.24	Vertical disjunctive, spaced foliation—Showing strike			
8.3.25	Inclined (dip direction to right) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip			
8.3.26	Inclined (dip direction to left) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip			
8.3.27	Vertical disjunctive, spaced foliation, for multiple observations at one locality—Showing strike			
8.3.28	Horizontal disjunctive, symmetric crenulation foliation			
8.3.29	Inclined disjunctive, symmetric crenulation foliation—Showing strike and dip			
8.3.30	Vertical or near-vertical disjunctive, symmetric crenulation foliation—Showing strike			
8.3.31	Inclined (dip direction to right) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.32	Inclined (dip direction to left) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.33	Vertical or near-vertical disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike			
8.3.34	Horizontal disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation			
8.3.35	Inclined disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike and dip			
8.3.36	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike			
8.3.37	Inclined (dip direction to right) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.38	Inclined (dip direction to left) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.39	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike			
8.3.40	Horizontal disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation			
8.3.41	Inclined disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation—Showing strike and dip			
8.3.42	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation—Showing strike			
8.3.43	Inclined (dip direction to right) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.44	Inclined (dip direction to left) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip			
8.3.45	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike			

*For more information, see general guidelines on pages A-i to A-v.

8—FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
8.3—Secondary foliation (caused by metamorphism or tectonism) (continued)				
8.3.46	Horizontal gneissic layering			For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only when necessary to prevent overcrowding).
8.3.47	Inclined gneissic layering—Showing strike and dip			
8.3.48	Vertical or near-vertical gneissic layering—Showing strike			
8.3.49	Inclined (dip direction to right) gneissic layering, for multiple observations at one locality—Showing strike and dip			
8.3.50	Inclined (dip direction to left) gneissic layering, for multiple observations at one locality—Showing strike and dip			
8.3.51	Vertical or near-vertical gneissic layering, for multiple observations at one locality—Showing strike			
8.3.52	Horizontal undulatory gneissic layering			
8.3.53	Inclined undulatory gneissic layering—Showing strike and dip			
8.3.54	Vertical or near-vertical undulatory gneissic layering—Showing strike			
8.3.55	Horizontal mylonitic foliation			
8.3.56	Inclined mylonitic foliation—Showing strike and dip			
8.3.57	Vertical or near-vertical mylonitic foliation—Showing strike			
8.3.58	Inclined (dip direction to right) mylonitic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.59	Inclined (dip direction to left) mylonitic foliation, for multiple observations at one locality—Showing strike and dip			
8.3.60	Vertical or near-vertical mylonitic foliation, for multiple observations at one locality—Showing strike			

**For more information, see general guidelines on pages A-i to A-v.*